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CONTENTS

OF THE

AMERICAN JOURNAL

OF THE

MEDICAL SCIENCES.

NO. LXX. NEW SERIES.

APRIL, 1858.

MEMOIRS AND CASES.

ART. PAGE

I. The Influence of the Placenta upon the Development of the Uterus during Pregnancy. By William Read, M. D., formerly Physician to the Boston Lying-in Hospital. (Read before the Boston Society for Medical Improvement, Dec. 28, 1857.) - - - - - - - - - - - - 309

II. On the Alterations induced by Intermittent Fever in the Physical and Chemical Qualities of the Urine, and on the Action of the Disulphate of Quinine. By William A. Hammond, M. D., Assist. Surg. U. S. A. (Read before the Biological Society of Philadelphia, February 15, 1858.) 322

III. On the Use of Iron. By Isaac Casselberry, M. D., Evansville, Ind. 327

IV. Glycerine as a Local Application in Pseudo-Membranous Croup. By E. R. Mayer, M. D., of Wilkesbarre, Pa. - - - - - - - - 338

V. On the Local Application of Belladonna with Mercurial Ointment in the Treatment of Croup. By John D. Shelton, M. D., of Jamaica, Queen's County, New York. - - - - - - - - - - - - 340

VI. Report of Cases treated at the Surgical Clinic of the University of Pennsylvania. By J. J. Woodward, M. D., of Philadelphia, Assistant to the Surgical Clinic. - - - - - - - - - - - - 344

VII. Medical and Surgical Notes of Campaigns in the War with Mexico, during the years 1845, 1846, 1847, and 1848. By John B. Porter, M. D., Surgeon U. S. Army - - - - - - - - - - - - 347

VIII. Case of Fracture of the Clavicle and Humerus of the same Side. By B. F. Schneck, M. D., of Lebanon, Pennsylvania. - - - - - 352

IX. Resection of the Femur, and Removal of the Trochanter Major for the formation of an Artificial Hip-Joint. By A. G. Walter, Surgeon, Pittsburg, Pa. - - - - - - - - - - - - - - 354

X. Resection of the Lower Jaw for Necrosis caused by Inhalation of the Fumes of Phosphorus. By Wm. S. Halsey, M. D., Prof. of Surgery in the Philadelphia College of Medicine. - - - - - - - - - 356

XI. Case of Somnambulism. By Robert M. Stribling, M. D., of Virginia 360

XII. Exsection of the Entire Radius. By J. M. Carnochan, Professor of Surgery in the New York Medical College, Surgeon-in-Chief to the State Hospital (New York), etc. With a wood-cut. - - - - - - - 363

XIII. Account of a Monster of the Genus Peracephalus. By Walter F. Atlee, M. D. (Read before the Biological Society of Philadelphia, March 1, 1858.) - - - - - - - - - - - - - - - - - 370

ART. PAGE
XIV. Spontaneous Rupture of the Eye. By Andrew Fleming, M. D., late Resident Physician to the Pennsylvania Hospital. - - - - - 373
XV. Experiments with Bibron's Antidote to the Poison of the Rattlesnake. By Louis de Vesey, Member of the Academy of Natural Sciences of Philadelphia. - - - - - - - - - - - - - - 376

TRANSACTIONS OF SOCIETIES.

XVI. Summary of the Transactions of the College of Physicians of Philadelphia. - - - - - - - - - - - - - - 377
1. Injurious Effect upon the Eye of the Light from the Fish-tail Burner. By Dr. B. H. Rand. - - - - - - - - - 377
Fatal Enlargement of the Thymus Gland with Subjacent Tumour. By Dr. Henry Hartshorne. - - - - - - - - - - 378
Congenital Malposition of the Liver. By Dr. J. C. Morris. - - 380
Foreign Body in the Lungs. By Dr. G. B. Wood. - - - - 380
Chronic Disease of the Urinary Organs characterized by Anomalous Symptoms. By Dr. O. J. Wister. - - - - - - - 382
Fatal Disease of the Appendix Vermiformis. By Dr. Caspar Wister. 383
Foreign Body retained upwards of Twenty Years in the Nasal Passage. By Dr. I. Hays. - - - - - - - - - - - 390
Epistaxis arrested by the Administration of Common Salt. By Dr. Caspar Morris. - - - - - - - - - - - - - 390
Melanotic Tumours of various Thoracic and Abdominal Viscera, without External Evidence of Melanosis. By Dr. Griscom. - 392
Annual Report on Meteorology and Epidemics. By Dr. Wilson Jewell. - - - - - - - - - - - - - - - 395

REVIEWS.

XVII. Clinique de l'Hôpital du Midi—Leçons sur le Chancre, professées par le Docteur Ricord, rédigées et publiées par Alfred Fournier, Interne de l'Hôpital du Midi, Paris, 1858. 1 vol. in 8vo.
Clinic of the Midi Hospital—Lectures on Chancre, delivered by Dr. Ricord, collected and published by A. Fournier, House Physician of the Midi Hospital, Paris, 1858. 1 vol. 8vo. - - - - - - - - - - 427
XVIII. On Stricture of the Urethra. By Henry Smith, F. R. C. S., Surgeon to the Westminster General Dispensary, formerly House Surgeon to King's College Hospital. London, 1857: pp. 280 - - - 433

BIBLIOGRAPHICAL NOTICES.

XIX. Reports of American Institutions for the Insane.
1. Of the Central Ohio Lunatic Asylum for 1857.
2. Of the Southern Ohio Lunatic Asylum for 1857.
3. Of the New York City Lunatic Asylum, for the year 1856.
4. Of the Bloomingdale Asylum, for the year 1856.
5. Of the Vermont State Asylum, for the fiscal year 1856–7.
6. Of the Western Lunatic Asylum, of Virginia, for the two years ending on the 30th September, 1857.
7. Of the Retreat, at Hartford, for the fiscal year 1856–7.
8. Of the New York State Lunatic Asylum, for the year 1856.
9. Of the Massachusetts State Lunatic Hospital, at Worcester, for the year 1856.
10. Of the New Hampshire State Asylum, for the fiscal year 1856–7. - 449
XX. Proceedings of Westchester County Medical Society, at its Annual Meeting, held in the Village of Sing Sing (N. Y.), June 3, 1856. 8vo. pp. 50. - - - - - - - - - - - - - - - 462

ART. PAGE

XXI. San Francisco Medical Society; Annual Address delivered before the Society, pursuant to appointment, Jan. 27, 1857. By Henry Gibbons, M. D. 8vo. pp. 24. - - - - - - - - - - - 465

XXII. Experimental Researches relative to the Nutritive Value and Physiological Effects of Albumen, Starch, and Gum, when singly and exclusively used as food. By W. A. Hammond, M. D., Assistant Surgeon U. S. A. - - - - - - - - - - - - - - - - 468

XXIII. Essays on the Secretory and the Excito-Secretory System of Nerves in their Relations to Physiology and Pathology. By Henry Frazer Campbell, A. M., M. D., one of the Vice-Presidents of the American Medical Association, and Professor of Special and Comparative Anatomy, in the Medical College of Georgia (Augusta). With Illustrations. 8vo. pp. 135: J. B. Lippincott and Co., Philadelphia, 1857. - - - 470

XXIV. The Enlarged Prostate; its Pathology and Treatment; with Observations on the Relation of this Complaint to Stone in the Bladder. By Henry Thompson, F. R. C. S., &c. Octavo: pp. 329. London, 1858.
The Prostate Gland and its Enlargement in Old Age. By Decimus Hodgson, M. D., Demonstrator of Anatomy in the University of Glasgow, London, 1856. - - - - - - - - - - - - - - - 473

XXV. A Practical Treatise on the Diseases of Children. By J. Forsyth Meigs, M. D., Fellow of the College of Physicians of Philadelphia, etc. etc. Third edition. Carefully revised. 8vo. pp. 724. Philadelphia: Lindsay and Blakiston, 1858. - - - - - - - - - - 479

XXVI. Journal de la Physiologie de l'Homme et des Animaux. Publié sous la Direction du Docteur E. Brown-Séquard. Tome Premier, Janvier, 1858. Paris, J. B. Bailliere et Fils. London and New York, H. Bailliere. - - - - - - - - - - - - - - - - 479

XXVII. Comptes Rendus des Séances et Mémoires de la Société de Biologie, pendant l'année 1856. Octavo, pp. 748. Paris, 1857.
Minutes of the Meetings and Papers read before the Society of Biology in the year 1856. - - - - - - - - - - - - - 482

XXVIII. Archives of Medicine. A Record of Practical Observations and Anatomical and Chemical Researches connected with the Investigation and Treatment of Disease. Edited by Lionel S. Beale, M. B., F. R. S., &c. &c. London: John Churchill. 1857. No. 1. - - - - - 483

XXIX. A Theoretical and Practical Treatise on Midwifery, including the Diseases of Pregnancy and Parturition, and the Attentions required by the Child from Birth to the Period of Weaning. By P. Cazeaux, Member of the Imperial Academy of Medicine, Adjunct Professor in the Faculty of Medicine of Paris, etc. etc. Second American, translated from the Fifth French edition. By Wm. R. Bulloch, M. D. With one hundred and forty illustrations. 8vo.: pp. 992. Philadelphia, 1857. Lindsay and Blakiston. - - - - - - - - - - - - 484

XXX. A Manual of Medical Diagnosis: being an Analysis of the Signs and Symptoms of Disease. By A. W. Barclay, M. D., Cantab. et Edin., Fellow of the Royal College of Physicians; Assistant Physician to St. George's Hospital, etc. etc. Philadelphia: Blanchard and Lea, 1858. 8vo. pp. 423. - - - - - - - - - - - - - 485

XXXI. On the Diseases, Injuries, and Malformations of the Rectum and Anus, with Remarks on Habitual Constipation. By T. J. Ashton, Surgeon to the Blenheim Dispensary, &c. &c. Second edition, London, John Churchill, 1857. 8vo. pp. 396. - - - - - - - - 487

XXXII. Plates Illustrative of Wilson on Diseases of the Skin. Fourth edition. Philadelphia: Blanchard and Lea, 1857. - - - - - 490

QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES IN THE MEDICAL SCIENCES.

FOREIGN INTELLIGENCE.

Anatomy and Physiology.

1. Choroid Plexus of the Human Brain. By Prof. Luschka. - 491
2. Histology of the Supra-Renal Capsules. By Dr. Harley. - 492
3. Function of the Supra-Renal Capsules, and their supposed Connection with Bronzed Skin. By Dr. George Harley. - - 493
4. Variations of the Colour of Venous Blood. By Prof. Claude Bernard. - - - - - 494
5. On the Properties and Uses of the Red Blood, and of the Dark Blood. By Dr. Brown-Séquard. 496
6. Membrana Meconii, and Rete Vasculare, newly discovered Structures existing in the Fœtus. By Dr. B. Ridge. - - 497

Organic Chemistry.

7. On the Physiological Relations of Albumen. By Dr. Hayden. 497
8. On the Chemical Changes in the Air during Respiration. By Dr. Harley. - - - - 500

Materia Medica and Pharmacy.

9. Influence of Liquor Potassæ and other Alkalies on the Therapeutic Properties of Henbane, Belladonna, and Stramonium. By Dr. A. B. Garrod. - - - 501
10. Experiment on Colchicine, and the Comparative Action of the Dry Bulbs and the Seeds of Colchicum. By Prof. Schroff. - 502
11. Emmenagogue Action of Achillea Millefolium. By Dr. Ronzier-Jolly. - - - - 503
12. Defects of ordinary Escharotics, with suggestions for their Improvement. By Mr. Ellis. - 503
13. Sulphuric Acid and Sulphate of Zinc as a Caustic Agent. By Mr. Henry Thompson. - - 504
14. Administration of Cod-liver Oil, and Substances soluble in it, in Capsules. By Mr. T. Spencer Wells. - - - - - 504
15. Preparation of Iodide of Calomel. By M. Boutigny. - 505
16. Lotion for Strumous Glands. - 505
17. Cocoa-nut Oil Ointments. - 506
18. Proposed Substitute for Oils and Fats in Ointments. By Mr. Schacht. - - - - - 506

Medical Pathology and Therapeutics, and Practical Medicine.

19. Treatment of Diabetes by Sugar. By Drs. Budd, Williams and Corfe. - - - - 506
20. Bronzed Skin—Disease of the Supra-Renal Capsules. By Mr. Hutchinson and Dr. Addison. - 509
21. Treatment of Inflammatory Diseases of the Respiratory Organs. By Dr. Semple - - 513
22. Treatment of Pleuro-Pneumonia. By Dr. S. O. Habershon. 514
23. Hydropneumothorax treated by Paracentesis Thoracis and Injections of Iodine. By Prof. Trousseau. - - - - 515

PAGE

24. Specific Treatment of Consumption by Salts of Phosphorus. By Dr. R. P. Cotton. - 516
25. Effect of Local Influences on Spasmodic Asthma. By Dr. Hyde Salter. - - - - 517
26. On Œdema Glottidis. By Professor Pitha. - - - - 518
27. Acute Rheumatism caused by large doses of Hydriodate of Potass. By Dr. Charles Campbell. 519
28. Principles of Treatment in Chronic Rheumatism. By Dr. Inman. - - - - - 519
29. Perchloride of Iron in the Treatment of Erysipelas. By M. Aran. - - - - - 520
30. Guarana in Chronic Diarrhœa. By Dr. Hervé. - - - - 521

PAGE

31. Use of Kameela as an Anthelmintic. By Mr. Arthur Leared. 522
32. On the Employment of Tartarized Antimony in the Treatment of Chorea. By Dr. Adrien Marcotti. - - - - - 522
33. Lactate of Zinc in Epilepsy. By Dr. Herpin - - - - 522
34. Therapeutic Action of Chlorate of Potash, with a New Mode of Administering it. By Dr. Dethan. - - - - - 523
35. Movable Kidneys. By Prof. Oppolzer. - - - - - 523
36. Functional Paralysis. By Dr. Handfield Jones. - - - 524
37. The Doctrine of Elimination, as propounded by recent Authors. By Dr. Thomas Inman. 524

Surgical Pathology and Therapeutics, and Operative Surgery.

38. After-Treatment of Surgical Operations. By Dr. Broadbent. 525
39. Causes of the Pneumonia which Supervenes upon Laryngotomy. By Prof. Schuh. - 525
40. Process of Repair in Subcutaneous Diversion of the Tendo-Achillis. By Mr. Holmes Coote. 527
41. Suppuration of Strumous Glands. By Mr. James Paget. 528
42. Strumous Inguinal Glands. By Mr. James Paget. - - - 529
43. Cancerous Lymphatic Glands. By Mr. James Paget. - - 530
44. On Congelations. By M. Vallette. - - - - - 530
45. A Mixture of Collodion and Castor Oil as an Application to Severe Cases of Burns and Scalds. - - - - - 532
46. Employment of Collodion in Orchitis. By Dr. Losetti. - 532
47. Large Doses of Disulphate of Quinine in Dysuria and Retention. By Dr. Serres. - - 532
48. Thoracic Aneurism successfully treated. By Mr. Tufnell. 532
49. Cure of Popliteal Aneurism by Digital Compression of the Vessel corresponding with the Sac. By M. Vanzetti. - - 535
50. Excision of Enlarged Tonsils. By Mr. James Paget. - - 535
51. Experience of the Surgeons of the "Dreadnought" as to Pirogoff's Operation at the Ankle-joint. By Mr. I. Croft. - - 536
52. On some Points connected with the Treatment of Obstinate Stricture of the Urethra. By Mr. Henry Smith. - - - 537
53. Diagnosis of Hydrocele. By Prof. Nélaton - - - - 538

Ophthalmology.

54. On some Points in the Pathology and Morbid Anatomy of Glaucoma. By Mr. Hulke. - 539
55. Vascular Tumour of the Orbit of many Years' Standing, and latterly producing threatening Symptoms, successfully treated by the Injection of Tannic Acid. By Mr. Haynes Walton. - - 542
56. Nævi on the Eyelids cured by Perchloride of Iron. By Mr. Hulke. - - - - - 543
57. Dislocation of the Crystalline Lens. By Mr. White Cooper. - 443

Midwifery.

58. Reciprocal Sympathies between the Uterus and Bladder in Women. By Dr. W. T. Montgomery. - - - - - - 544
59. On Coagula formed in the Veins during the Puerperal State, and their occasional Transportation into the Pulmonary Artery. By Dr. Graily Hewitt. - - - - - - 548
60. On the Membrana Decidua which surrounds the Ovum in Cases of Tubal Gestation. By Dr. Robert Lee. - - - 549
61. Extra-Uterine Gestation. By Dr. Diamantapuplos. - - 551
62. Ruptured Uterus. By Mr. Dillon Kelly. - - - - - 552
63. Intra-Uterine Fractures. By Dr. Herbert Barker. - - - 552
64. Report on Cross-Presentations. By Professor Spaeth. - 553

AMERICAN INTELLIGENCE.

Original Communications.

Singular Result [Thrombus] of an Injury in the last Stage of Pregnancy. By Bedford Brown, M. D. - - - - - - 557
Tumour occurring thirty-six hours after Delivery. By J. Marcus Taylor, M. D. - - - - - 558
Case of Poisoning by Laudanum; Recovery. By Thos. J. Gallaher, M. D. - - - - - 559
Case of Hernia. By Robert Lane, M. D. - - - - - - 560
Dislocation of the First Phalanx of the Thumb upon the Dorsum of the Metacarpal Bone. By Benjamin Cutter, M. D. - - 561

Domestic Summary.

Dislocation of both Thighs—one into the Foramen Ovale, the other on the Dorsum of the Ilium, with Fracture of the Cervix Femoris. By Dr. J. Mason Warren. - - - - - - 563
A Simple and Efficient Bandage for Fracture of the Clavicle. By Dr. Julian Chisholm. - - 564
Some Remarks on Cataract. By Dr. C. S. Fenner. - - - 565
Thrombus of the Vagina. By Dr. Boisliniere. - - - - - 566
Fatal Asphyxia from Imperfect Combustion of Gas. - - - 567
Inverted Toe-Nail treated without Operation. By Dr. Robert Campbell. - - - - - - - 568
Case of Impalement. By Dr. A. C. Garratt. - - - - - 568
Extraction of a Living Child, by Turning, after the Death of the Mother. By Dr. G. W. Thornton. - - - - - - - 569
Absence of Urea and Uric Acid in Urinary Secretions in Yellow Fever. By Dr. F. Peyre Porcher. 570
Creasote in Dysentery. By Dr. G. E. Elmer. - - - - - 570
Euphrasia Officinalis as a Cure for Epilepsy. By Dr. J. G. Kyle. 570
Treatment of Prolapse of the Funis. By Dr. T. Gaillard Thomas. - - - - - - - 570
Inoculation with Gonorrhœal Matter for the Cure of Granular Lids and Corneitis. - - - 570

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AMERICAN JOURNAL

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FOR APRIL 1858.

ART. I.—*The Influence of the Placenta upon the Development of the Uterus during Pregnancy.* By WILLIAM READ, M. D., formerly Physician to the Boston Lying-in Hospital. [Read before the Boston Society for Medical Improvement, Dec. 28, 1857.]

IN the course of a somewhat extended consultation of obstetrical writers, undertaken while investigating the subject of placenta prævia, nothing became more evident than the insufficiency of any theory of the development of the uterus as at present propounded, to account for all the phenomena which manifest themselves in this unnatural form of pregnancy.

The theory of uterine development recognized by writers at the present day, is, that the uterus begins to enlarge at the fundus; that the body of this organ next takes part in the process, then the cervical portion, and finally the cervix itself. That this process of enlargement goes on in the fundus and body exclusively for 5, 6, or 7 months, or even longer, and that after this time the increase of its cavity is gained at the expense of the neck, the rest of the uterus remaining comparatively quiet. That in consequence of this process, the uterus at the end of gestation acquires a fusiform shape, the smallest end resting in the pelvic basin.

But while agreeing in the general plan of development, nothing can be more vague and contradictory than the opinions expressed as to the rate and mode in which this development is carried on.

The absence, also, of any proof whether the cases on record, by which the size and shape of the uterus at different periods of gestation have been determined, were all of them normal presentations, or whether a part of them were not presentations other than those of the head, renders the results obtained from them of doubtful value.

That the uterus enlarges as the fœtal mass increases in size, is a fact that

admits of no dispute; but that it expands in one part before another, in obedience to any organic law, as the consequence of the operation of a vital cause, may be doubted.

If it should be proved that, irrespective of the position of the placenta upon the uterine walls, the fundus always began to expand before any other portion of the uterus, and that, as the development proceeded gradually downward, the cervix was the last to lose its characteristic shape, until, at the close of gestation, the outline of the whole organ was constant and symmetrical, whatever may have been the presentation of the child, a strong and unanswerable argument might be made out in support of the present theory. But in this conclusion we are not sustained by facts. In normal presentations, at the period of its utmost development, the general outline of the uterus is pyriform, the base being above, and the apex resting in the cavity of the pelvis. When the breech presents, it becomes almost globular; and in transverse presentations the long diameter is at right angles to the axis of the pelvis; proving very conclusively that the shape of the uterus, at the termination of gestation, is not the result of development, but depends upon the position of the contained fœtus.

Neither is the uterus symmetrical at the close of pregnancy. According to Mr. Doherty,[1] if a line be drawn round the body of this organ at the insertion of the Fallopian tubes, which in the unimpregnated state are situated nearly in the median line, it will be found that $\frac{3}{5}$ of its circumference is behind them, and $\frac{2}{5}$ in front. Cazeau[2] also makes the same remark. The insertion of the tubes, also, from being nearly at the level of the fundus, is now found to be one-third of the way towards the os, showing that a much greater expansion has taken place in one direction than another. The gradual mounting of the uterus in the cavity of the abdomen proves nothing, for, supposing that the expansion should begin in any portion of its walls, the inability of that expansion to extend beyond a certain degree in any other direction than upward or downward, and the impossibility of its enlargement being accommodated in the pelvic cavity, would of necessity force the mass in an upward direction, and produce the same apparent effect as if the fundus alone was enlarging. The mere fact, therefore, that the uterus rises out of the cavity of the pelvis, as the gestation proceeds, is no proof that any particular portion of this organ is being first developed.

Great reliance has been placed on the proofs derived from the changes which the neck undergoes during the latter portion of pregnancy: but except in first pregnancies, even these are not to be depended on. In relation to this point, M. Jacquemier[3] remarks that "the period when the dilatation of the neck commences has not as yet been fixed with any precision, and seems to offer many individual differences. The dilatation and shortening of the

[1] Braith. Retros., July—Dec., 1840, art. 127.

[2] Traité theorique et pratique de l'Art des Accouchement, 5th ed., p. 94, note.

[3] Manuel des Accouch., vol. i. p. 177.

neck are two phenomena intimately connected, which are observed simultaneously. But, although it has been very generally admitted that the dilatation and the shortening of the neck begin at the fifth or sixth month, it cannot be regarded as a term fixed by any exact observation." M. Cazeaux states that the neck preserves its whole length until the last fortnight, and that in that time only is it absorbed into the cavity of the uterus.[1] The absence, moreover, of all data which would determine the position of the placenta or the presentation of the child in each particular case recorded, renders the results obtained from them almost valueless.

The greatest diversity of opinion also exists in regard to the period at which the relative changes in the uterus begin. Mr. E. Murphy places the period during which the cervix expands, from the 7th until the 9th month.[2] Mr. Burns[3] states that the cervix begins to partake in the development of the uterus at the 5th month, and continues till the 9th. Mr. F. H. Ramsbotham[4] places it at the 6th; "when five months are perfected, or about that period." Mr. J. T. Inglely[5] says: "Before the fifth month, the development of the uterus is confined to its fundus and body; but after the fifth month, the distending power of the ovum is exerted upon the neck of that organ which it dilates circularly from above." Dr. John Ramsbotham[6] remarks that for six or seven months the uterus "has been more particularly developed in its fundus and body; and that about that period the cervix uteri becomes shorter and thinner." Dr. Robert Collins[7] places it in the last three months. Dr. Robert Lee[8] states that the shortening of the cervix takes place in the 7th month. Dr. Blundell[9] says that, "during the two or three months in the end of pregnancy, the cervix uteri gradually dilates itself, so as to form a part of the chamber tenanted by the fœtus." Dr. Churchill[10] remarks "that the increase in size of the womb commences at the fundus, and as this is developed, the body enlarges; last of all, and not before the fifth month, the cervix." Dr. C. D. Meigs[11] puts it at the 7th month. Moreau[12] states "that from the first to the third month the development is principally effected at the expense of the fundus; from the third to the sixth, by the increase in the body; in the last three months it continues at the expense of the neck. This order cannot be broken without a change in the duration of pregnancy."

According to Dr. Davis,[13] it is during the last three months. Dr. Conquest[14] says it begins at the fifth month. Dr. Maunsell[15] at the 6th or 7th. Jacquemier[16] places it at the 7th, but expresses no great confidence in these

[1] Sup. cit., p. 101.
[2] Mid., Lond. 1852, p. 335.
[3] Ed. by James, sect. 38.
[4] Obstet. Med., Am. ed., p. 340, order 4th, sect. 1—a.
[5] Prac. Treat. on Ut. Hem., p. 140.
[6] Pract. Observ., 2d ed., p. 291.
[7] Pract. Mid., Am. ed., p. 61.
[8] Lect. on Mid., p. 363.
[9] Lect., ed. by Castle, p. 444.
[10] Theory and Pract. of Mid., § 157.
[11] Treatise on Obstetrics, p. 433.
[12] Transl. by Betton, p. 40.
[13] Obstetric Medicine, p. 1038.
[14] Outlines of Med., 6th ed., p. 157.
[15] Dublin Prac. of Med, p. 167.
[16] Sup. cit., vol. i. p. 178.

dates. Velpeau[1] considers that the change has begun before the fifth month, but qualifies his statement by remarking that "frequent observation, and the most careful investigation, have singularly lessened the confidence I formerly had in them (referring to various assumed facts in regard to the changes in the cervix uteri). The changes to which the neck is subjected during gestation, vary almost as much as its anatomical characters in the unimpregnated state. What I have said on the subject should therefore be understood only in a general sense." M. Cazeaux[2] believes that, "during the first six months of gestation, the uterus is developed at the expense of the fibres in the superior part of the body, or fundus of the organ particularly; while in the last three months, the fibres appertaining to the lower third of the womb are developed in a rapid manner, and the cavity of the organ is enlarged in consequence of the distension and growth of this lower part; a proof of which is, that the body of the uterus, which was pyriform in the earlier months, is perfectly ovoidal in shape towards the close of pregnancy." Mr. Edward Rigby[3] states that in the fifth month the change is distinctly perceptible. From all this, we see how little reliance can be placed upon mere opinions, which allow a latitude of three months for the commencement of a process, which, according to all analogy, should, under equal circumstances, begin at a uniform period.

Nor are the proofs derived from the supposed rate of increase in the placenta any more satisfactory in their nature. M. Cazeaux[4] assumes that the placenta gains its size almost entirely within the first six months, or during the period while the fundus is enlarging, and hence derives an argument in favour of their mutual adaptation. In this, in so far as he assumes that the fundus is the proper location of the placenta, he is sustained by Jacquemier,[5] who also considers that it is there situated in accordance with a vital law; "thus it fixes itself there in obedience to a pre-existing organic attraction, for it is not to be supposed that all parts of its surface are alike fitted for the development of the placenta." Velpeau[6] states that "the placenta constantly augments in the same proportion as the surface of the womb with which it is in immediate contact." Mr. Carpenter[7] gives as his opinion, that after the third month the placenta "goes on increasing in accordance with the growth of the ovum."

In answer to the proposition of Cazeaux, it may be said that, according to the information already obtained, it seems to be proved that there is no particular location for the placenta in the uterus. Its diversity of situation is so great that it may be assumed, as a general truth, that any portion of the interior of the uterus which is out of the way of the changes which take place at the end of gestation, when the os dilates, and which also is not liable to compression from the child's head during labour, is proper and fit for the attach-

[1] Transl. by Meigs, 4th ed., p. 139.
[2] Sup. cit., p. 702.
[3] System of Mid., part i. chap. 2.
[4] Sup. cit., p. 702.
[5] Sup. cit., vol. i. p. 273.
[6] Sup. cit., p. 209.
[7] Prin. of Human Physiol., 5th Am. ed., § 983.

ment of the placenta. As to its seat on the fundus, long held to be the natural position for its location, observation proves that it is situated there rarest of all. Indeed, in 600 cases reported by Nægele,[1] it was found more often over the os uteri than the fundus, there being 11 instances of the former and only 7 of the latter. In 100 cases reported by Mr. Doherty,[2] he found that it was situated on the anterior wall in 25; on the posterior wall in 54; to the left side in 10; to the right in 8; leaving only 3 cases for all the other positions in which it could be. "Of 34 women," says Velpeau,[3] "who died while pregnant, or soon after delivery, at the Hôpital de Perfectionnement, I found, upon examining the parts, that the centre of the placenta corresponded to the orifice of the tube in twenty cases; it was in front of it in three cases; behind it in two; below it in three; and in six cases only towards the fundus."

To compare the size of the placenta with that of the uterus, except in a post-mortem examination, which must be done in order to substantiate the theory of Velpeau, is of course impossible, and the difficulties which must always accompany attempts to measure these organs, are of such a nature and so great that but little reliance can be placed upon the results; and, moreover, the size of the uterus is not always dependent on the size of the child, for many small fœtuses are surrounded by an immense quantity of water, and *vice versa;* and why a larger placenta should be the result in one case and a smaller one in the other, is difficult to perceive, and contrary to analogy.

In regard to Mr. Carpenter's statement, facts prove directly the contrary. There is not the slightest agreement between the weight of the child and that of the placenta, which ought to follow if there was a parallel growth. The following weights, taken from the records of the Boston Lying-in Hospital, prove this conclusively:—

Weight of child.	Placenta.	Child.	Placenta.
lb. 8½	lb. 1 7 oz.	7	lb. 1
8	1 6	8½	1 4 oz.
8	1 8	6	1
Twins 11	2	7½	1 6
6¼	1 4	9½	1 8
6½	1	7¾	1
8	1 4	8	1 12
8¼	2	9	2
7¾	1 4	7½	1
7½	1 4	8¾	1 12
7½	1 8	7¾	1 8
7	1 15	8½	2 4
9	1 4	10½	1 4
9	1 4	8½	1 4
7	1	8	1 8
9	1 4	7	
8	1	8	12
6½	1	10	1 4
9	1 4	10	1
9	1 4	13½	1 12

[1] Braith. Retros., July—Dec. 1840, art. 127. [2] Ibid.

[3] Sup. cit., p. 210.

But beyond the weakness of the evidence upon which the theory is founded, it cannot account for all the phenomena which occur in placenta prævia. Based upon the assumption that the development of the uterus is from above downwards, from the fundus to the cervix, and that the placenta acquires most of its growth in the first six months, it follows of necessity that the greater the surface of that organ attached to that portion of the uterus which takes on its alteration of structure in the last part of pregnancy, the greater will be the separation and consequent hemorrhage. M. Cazeaux, as before quoted, assumes that the placenta acquires the most of its growth in the first six months of pregnancy, or during the period when the fundus is undergoing the same process. "This double phenomenon," says he, "seems to me quite sufficient to account for the production of hemorrhage; for when the placenta is attached to the fundus, its growth is simultaneous with the enlargement of that portion of the uterine walls on which it is implanted, and there is evidently no loss of blood; but when the after-birth is inserted over the cervix uteri, or on some adjacent point, the contrary must necessarily occur, because the growth of the placenta is nearly completed, whilst a more considerable extension of the lower third of the womb has yet to take place. Of course, the placenta can no longer participate in this rapid development by conforming to the increase of the uterus, and by following the widening of the wall on which it is inserted; and hence it spreads out from the centre towards its circumference, the fissures between its cotyledons become larger, and its different lobes are thus widely separated; but the growth of the inferior wall of the uterus is so rapid in the latter months that this mechanical widening of the placenta, upon which M. Jacquemier has particularly insisted, is no longer sufficient to prevent the tension of the utero-placental vessels, or of the cellular tissue in which they ramify; and this tension being ultimately carried to an extreme, all of these cellulo-vascular adhesions give way and become ruptured, and thus give rise to the production of hemorrhage."[1]

M. Jacquemier proposes, instead of the single process of development, another cause acting in concert with it, and which he terms mechanical distension, caused by the fœtal mass, particularly when the head presents; and in noticing the dilemma into which the supporters of the existing theory must necessarily be placed when accounting for the discrepancy of the dates of the first occurrence of hemorrhage, holds the following language: "If the separation of the placenta when it is attached to the neck of the uterus is the result of dilatation, how does it happen, upon the supposition that the cervix begins to be changed gradually from top to bottom in the sixth month, that flooding does not occur regularly at this period? If, on the contrary, as appears to me in reality to be the case, the internal orifice remains entirely closed until about the middle of the ninth month, why is it that the hemorrhage manifests itself often before that period? It is that its dilatation is not

[1] Sup. cit., p. 702.

the only cause of the separation of the placenta. The rapidity of the development of the inferior segment of the body of the uterus, and the mechanical distension during the last months of pregnancy, which make it descend so deeply, in a short space of time, into the pelvic cavity, particularly when the head presents, constitute the ordinary cause of hemorrhage up to a period very near the end of gestation."[1] The difference, however, between his opinions and that of other authors is more apparent than real, for as to all the other points, which are in reality more essential, viz., the place where the development begins, the relative growth of the placenta with the fundus, and the direction of the developing process, he holds the same belief with them.

Exceptions to the operation of all general rules are to be expected, and it would be manifestly unfair to condemn the one already stated, on the single objection that they occur; but exceptions should be merely exceptions. They ought neither to be great in number, nor antagonistic in principle to the rule itself, both of which qualities apply to that under consideration. We refer to those cases in which, with complete presentation of the placenta, no hemorrhage takes place before the end of pregnancy. Of their existence Levret[2] was early aware. His language in relation to them is here quoted at length, both for the reason that it gives the clearest exposition of the application of the theory that can be found in any writer, and also from the fact that the theory is essentially his own; the principle upon which it is founded having been first enunciated by him. "A question naturally presents itself here, which it is interesting to clear up; it consists in knowing why some females who have the placenta attached to the proper neck of the uterus, go their full period, and why the majority of those who are in the like situation do not go so long. This variety of effect, which proceeds from the same cause, must necessarily be dependent upon the same particular circumstances which constitute a determining cause. I will explain myself, and say that, according as the placenta has been originally attached higher or lower in the true neck of the womb, the hemorrhage will come on sooner or later; moreover, when this vascular mass shall have taken root very near the os tincæ, the woman will approach nearer the natural term of her confinement than if it had attached itself at the top of the passage of the uterine neck, and in the same proportion between their two extremes; indeed, it is as well demonstrated by the mechanism of pregnancy as by practical experience in the obstetric art, that the neck of the womb does not begin to expand to aid in increasing the size of the cavity of this viscus, until the last months of pregnancy, and that it is by small degrees that the portions of the uterine neck continue in their turn to enlarge from top to bottom, from which it results that the neck cannot aid in this expansion without causing the placenta, which is not susceptible of the same extension, to become partially detached, whether at a point of its circumference, if it is more advanced on one side than the

[1] Sup. cit., vol. ii. p. 236.

[2] L'Art des Accouch., p. 373.

other, or at its centre, if that exactly corresponds to the middle of the top of the neck of the womb; it necessarily follows, then, that hemorrhage will ensue at a time more or less near, or more or less remote from the natural term of the pregnancy, just as the placenta happens to be attached nearer or further from the true neck of the womb." Now were the reason he adduces, viz., "that the neck cannot aid in this obliteration without causing the placenta, which is not susceptible of the same extension, to become partially detached," the true one, exceptions to a general rule of hemorrhage in the last months of pregnancy, ought to be of the rarest kind. The fact, however, as he himself admits, is not so. The researches of Mr. Doherty[1] upon this point, show that there are many cases which go the entire term without hemorrhage. He says: "I have been engaged in examining the records of cases of this description, and although, in many, the distinction is not sufficiently drawn between a partial and a full presentation, nor the period of the first occurrence of hemorrhage defined, to make them available for our present purpose, I have collected a sufficient number of which the details are accurately given, to prove, that where there is merely a bit of the placenta overhanging the os, the woman scarcely ever goes beyond the seventh or eighth month without an alarming discharge of blood; while, on the other hand, although with a full implantation, hemorrhage, in the greater number of instances, bursts forth at intervals during the latter months, it is not a very unusual circumstance to find such patients proceed without any sanguineous loss till their term is completed."

This he endeavours to explain by supposing that "when the placenta springs from the cervix, or, as in one patient, although originally commenced in one of the walls of the uterus, as indicated by the root of the cord, it enlarges to such a magnitude as to cover completely the neck also, its growth has been sufficiently concentrated or extensive to keep pace with the circular expansion then progressing in the inferior chamber of the womb; whereas, when the substance, being at first elsewhere affixed, does not exceed its usual proportions, but is merely developed so irregularly as to advance a portion of its margin over that part, its growth is expended in other directions, and it becomes unable to adjust itself to the daily increasing size of the region into which it has, as it were, strayed."[2] Mr. Edward Rigby also seems to have been aware of this difference in favour of complete presentations of the placenta, and in regard to it holds the following language:[3] "Our own observations have rather led to the conclusion, that where the placenta is but partially attached over the os uteri, the first attack of flooding is rarely delayed until the full term of pregnancy, but makes its appearance some weeks earlier." And in the report of a case in which the placenta was centrically placed, and yet there was no gush of blood until the full term of pregnancy had expired, asks:[4] "Are not those hemorrhages from placenta prævia which make their

[1] Braith. Retros., vol. xii. art. 175.
[2] Ibid.
[3] Sup. cit., part 5, chap. 12, Am. ed., p. 413.
[4] Braith. Retros., vol. xii. art. 175.

first appearance in the seventh and eighth months of pregnancy, generally connected with a partial attachment of the placenta to the os uteri; and on the other hand, when it is centrically detached, does not the patient usually go to the full term of gestation before any hemorrhage takes place?" His explanation of this is, that "the os uteri being only in part covered with placenta; that its other portion being free, is more capable of dilatation from slight causes than it would be were the placenta centrically attached." To the statements thus made by Levret, Mr. Doherty, and Mr. Edward Rigby, I am able to add the results of my own observations, extending over more than 800 cases of placenta prævia, in many of which the departure from the rule is so marked as to attract the most casual observer.

In view of these exceptional cases, the theory of M. Cazeaux is faulty in that it seems almost impossible to reconcile these cases with the general rule of hemorrhage, which ought to prevail if his reasoning were correct, without substituting them for the rule itself. And, indeed, he seems himself to place but little dependence on it, since in reference to these exceptional cases he adopts the theory of Moreau, which he states to be as follows: "M. Moreau[1] remarks that, in the cases cited, the infants were dead, and without doubt had been so many days. But, says he, when the fœtus dies in utero, there follow in the circulation of this organ those changes rendered necessary by the cessation of the fœtal circulation; the blood arrested in the vessels coagulates there; they become contracted, and oftentimes even obliterated; no more blood comes to the womb than is necessary for its nutrition, the stimulus which called there a great quantity no longer existing, and for this reason the dilatation of the os can proceed without much hemorrhage, although the vessels which unite its borders to the placenta may be ruptured. This appears to me to be the more rational opinion." But by adopting this he does not remedy the difficulty, for the children are not always dead, and therefore the condition of things upon which Moreau has based his explanation does not always exist, and the reasoning is good for nothing. The same objection applies to the proposition of M. Jacquemier. If we accept Levret's definition of the theory as the true one, it is necessary to suppose in those cases in which the flooding did not appear till just before the end of pregnancy, that the placenta must have been situated so low down on the cervical portion as not to have been reached by the changes which have been going on in the portions above; for although the true neck does not begin to be obliterated till the very last period of gestation—the last fortnight according to some authors—a portion of the lower part of the body has long ere this been developed to an extent sufficient to produce a separation. To suppose that all the cases which have progressed without hemorrhage till the end of pregnancy are of this description, would be to exceed the probabilities of the case, and, on the other hand, if we can suppose the placenta to be thus placed, it ought to be so

[1] Sup. cit., part 5, chap. 12, near the end.

small in superficies that its circumference would not reach to the space where those changes are going on—a supposition equally improbable.

Mr. Doherty[1] assumes that in complete placental presentations the growth of the placenta has been sufficiently concentrated or extensive to keep pace with the circular expansion going on in the latter months, while, when only a portion of it covers the os, its growth is expended in other directions, and hence is unable to adjust itself to the daily increasing size of the lower part of the uterus. That is to say, when the cervix is completely covered, the magnitude of the placenta, the concentration and extent of its growth, give it a property of keeping pace with the enlargement going on in the uterine walls, which is not possessed by the same organ, although it may be just as large, when situated elsewhere, and it may be in the immediate vicinity. His theory of exceptional development is also objectionable, for, if we grant that in a certain case the placenta has extended a portion of its circumference till, as the elder Rigby describes it, it is "somewhat like the lines of a very irregular island on the map, and one edge making almost a detached lobe,"[2] the probabilities that all the cases of partial presentation are of a like nature, or even a majority of them, are very small indeed; and moreover there is still left unaccounted for a large class of cases in which, while no portion of the placenta is over the os uteri, it is nevertheless in such immediate neighbourhood as to be exposed to all the changes to which it would have been subjected had it been attached to the os itself, and yet no hemorrhage ensues. According to Von Ritgen, the situation of the rent in the membranes with relation to the edge of the placenta was—

At the edge in . . .	22	cases.
At the distance of one inch in	8	"
Between one and two inches .	12	"
Two inches	7	"
Between two and three . .	16	"
Three inches	5	"
Between three and four . .	4	"
Four inches	6	"
Between four and five . .	8	"
Five inches	3	"
Six inches	6	"
Eight inches	3	"

So that, in the 100 cases, the placenta was within two inches of the os uteri in 49.

And again, the occurrence of hemorrhage before the fifth month, the period which authors assign as the earliest at which the changes in the cervix begin, ought to be of the rarest occurrence, if ever. This difficulty has no doubt induced some to ignore these cases entirely. M. Jacquemier almost discredits their existence; his language is, that "hemorrhages[3] which cannot be attributed to causes independent of the place of the insertion of the placenta, which

[1] Dublin Journ. Med. Sci., July, 1845, and Braithwaite's Retros., vol. xii. art. 175.

[2] Essay on Ut. Hem., p. 40.

[3] Sup. cit., vol. i. p. 237.

declare themselves towards the end of the fourth month, and during the fifth and sixth, are in reality very rare." But while it may be true that many of the reported cases of hemorrhage occurring in consequence of placenta prævia before the fifth month are of a doubtful nature, there is nevertheless a number sufficient to establish the fact, which are guaranteed as to their authenticity by the names of the observers. Prof. Simpson[1] reports a case of hemorrhage in the fifth month, in which, after severe flooding, the child and placenta were expelled together. Mr. Everitt, of Ellesmere,[2] one of three months, accompanied with profuse hemorrhage, in which the placenta was extracted. Rigby's forty-fifth case[3] is one of twenty weeks. In this the placenta was distinctly felt to be attached to the os uteri, and there was flooding with every pain. His seventy-fifth case is one in which hemorrhage commenced at the third month, and returned at different intervals till delivery was effected at the middle of the seventh. If, extending these limits, but still keeping within bounds, we take those cases in which hemorrhage manifests itself in the fifth or sixth month, the list, instead of being an exceptional one, will form a respectable portion of any collection of cases.

Having thus shown that exceptions to a general rule of hemorrhage in the last months of placenta prævia not only do occur, but are so numerous and so entirely at variance with the principle upon which that rule is founded as to be altogether inexplicable, according to any legitimate interpretation of its meaning, we come next to the question, what shall be substituted in its stead?

The principle upon which the existing theory of development in the uterus, as the consequence of pregnancy, is based, is, that this development proceeds in a uniform direction, from a fixed point, irrespective of the position of any of its contents, and at an equally independent rate. But we have shown not only by the discrepancy which exists in the opinion of authors, but by the facts themselves, that this assumption has no real foundation; the data upon which it was founded being capable of a general application only, without any special bearing upon the point at issue. What seems to be required, is, a theory which allows the development to commence at any portion of the uterine walls, and to go on, not according to arbitrary laws, but in connection with the increasing growth of the ovum, and in obedience to the ordinary physiological laws, which are constantly at work in the living body. Not that it is intended by this to ignore the vital part of the process—far from it; accepting as one of the essential elements of the problem, and as its very initial term, the vital act of impregnation, it is intended to apply to what follows; that is to say, to the phenomena which appear in the course of the growth and maturation of the ovum into the perfect child. As in the explosion of a train of gunpowder, the application of a spark may be considered a special act, while all that follows proceeds according to well known chemical laws

[1] Collected works, Am. ed., vol. i. p. 606, Case 1.

[2] Provincial Med. and Surg. Journ., Sept. 30, 1846, and Braith. Retros., vol. xiv. art. 175.

[3] Essay on Ut. Hem.

which govern matter—just so in pregnancy, the act of impregnation is a vital act, but the development and growth of the ovum are in obedience to the same physiological laws which are ordinarily in operation in the organization of living beings.

The substitute which is offered in place of the existing theory, may be stated in the following terms:—

The attachment of the placenta to any portion of the uterus causes a development at that place, which proceeds pari passu, till, the limits of growth in the placenta having been reached, the enlargement is continued and kept up by the pressure constantly exerted on the uterine walls by the growing contents, till the time of parturition. That is to say, at whatever point the radicles of the placenta first attach themselves after the issue of the ovum from the Fallopian tubes, at that point the development of the uterus commences, and from that point it spreads as from a common centre, and takes shape according to the position of the contained fœtus.

It is believed that the above statement is in entire accordance with the inferences which may be legitimately drawn from known data, and also in accordance with physiological laws. It is also believed that the exceptional cases already alluded to, can be clearly explained, and by a very simple mechanism.

That the attachment of the placenta on the uterine walls should produce a development at that spot, needs no elaborate proof. If we admit that the same effects follow the same causes in pregnancy as in other processes going on in the human organization, it would follow that the attachment of the placental radicles would, in the first place, produce a determination of blood to that spot in a greater quantity than previously existed there, and following this, and as a consequence of it, a development. That the supply of blood at the place where the placenta is attached, is greater than at any other point, has been established beyond a doubt, and granting this, the rest follows as a matter of course. But in connection with the development which has been going on in the region of the placenta, the other portions of the uterine walls have become more or less distended, to accommodate the constantly growing fœtus, so that if we add together the effect of the two causes, we should expect, in natural presentations, to find the uterus not very irregular, but approximating to a globular shape, which, according to M. Jacquemier, it has, up to the time of the development of the cervix.

The idea that the ovum can exert an influence sufficiently powerful to gradually distend the uterine walls, is one which has been advocated by some writers, and denied by others. Mr. Ingleby, quoted before, distinctly recognizes it; so does M. Jacquemier;[1] and it was a favourite notion of the ancients. M. Cazeaux,[2] in opposing it, remarks that "the expansive force of the ovum

[1] Sup. cit., p. 237.

[2] Sup. cit., p. 91.

is powerless to overcome their resistance. * * * In a word, the growth of the ovum is the physiological cause, but not the mechanical agent of the development of the uterine walls." Velpeau[1] states that the "dilating force, altogether foreign to the product of conception, exists in the gestative organ itself. A circumstance that beyond question proves this to be the case, is that, in preternatural pregnancies, as remarked by Levret, Bertrand, Meckel, and Chaussier, and as I have also myself remarked in five instances, the uterine cavity, though empty, dilates as it does in ordinary gestation." But in answer to Velpeaux, and Cazeaux also, if the uterus expands in obedience to a physiological cause, why do we not always find it developed to the size it ordinarily attains, at the period noticed, in any particular case when the ovum is not within its cavity?—and even were this proved to be so, the fact that the ovum, in growing, has the power to overcome the resistance of the walls of the tube, in tubal pregnancies, shows that a distending force does exist in it—and if so, why should it not act in the same way on the walls of the uterus as on the walls of the tube? And still further, facts derived from observing the effects of intra-uterine tumours in enlarging its cavity, also prove that the resistance of the uterine walls is either not so great as is assumed, or that the force brought to bear on them during the process of growth in organized bodies contained within its cavity is sufficient to overcome this resistance, whatever it may be; and if by one body, thus constituted, then also by all. We are therefore justified in the conclusion that the uterine walls will expand under the constant pressure exerted upon them by the growing ovum.

The exceptional cases to which we have alluded as being inexplicable by any legitimate application of the present theory, owe their peculiar characteristics to the attachment of the placenta in a greater or less degree upon the cervix uteri. According to theory, the more complete the placental presentation, the earlier and more profuse ought to be the hemorrhage. According to fact, it is in many instances directly the reverse. Now, if we suppose the development to commence at the place where the placenta attaches itself, at the lowest part of the cervical portion, for instance, and keep pace with the growth of this organ, the difficulty disappears at once. For, by the time that the placenta having passed the period of its most rapid growth, the fœtal mass has already begun to exert its effect upon the uterine walls to enlarge them, the added strength which the thick, firm disk of the placenta gives to the cervical portion to resist this distension, is enough to prevent its being felt in that direction. And moreover, the general shape of the uterus being finally determined by the position of the child irrespective of the placental attachment, its form at the end of gestation would be the same, other things being equal, and would be scarcely modified by this complication. It applies also to partial presentations of the placenta of every degree, from that in which the os is almost entirely covered, to that in which the edge only of the pla-

[1] Sup. cit., p. 144.

centa is at its margin. For, just in proportion to the amount of the neck of the uterus covered by the placenta, is it protected from the distending process to which it is exposed during the later periods of pregnancy, and in just such proportion will the hemorrhage appear late or early, which is in accordance with observed facts.

Those cases also where the placenta is on the cervix, in the immediate vicinity of the os, but at the same time not overlapping it, which Von Ritgen proves to be of frequent occurrence, and which, according to every interpretation of the existing theory, ought to manifest a hemorrhagic tendency, but do not, are perfectly accounted for by the same reasoning. For, if it be objected that the distending process being exerted upon the cervical portions, it would at the same time act upon the os uteri, to open it; it may be answered that the same property which enables the os to keep closed during the changes which take place in the cervical portion in normal gestation, would preserve it entire in this. In short, it is believed that by adopting the theory thus set forth, all the phenomena which appear in the course of pregnancy when placenta prævia exists, and which depend for their cause upon the changes going on in the uterine walls, at the point of the placental attachment, may be clearly explained and accounted for by a much simpler mechanism than by the one already accepted and recognized. And while it does not militate in principle with acknowledged physiological laws, it so applies them as to leave fewer exceptional cases, and those cases not different in character from what are constantly occurring in normal pregnancies.

ART. II.—*On the Alterations induced by Intermittent Fever in the Physical and Chemical Qualities of the Urine, and on the Action of the Disulphate of Quinine.* By WILLIAM A. HAMMOND, M. D., Assist. Surg. U. S. A. (Read before the Biological Society of Philadelphia, February 15, 1858.)

WE know but little at present concerning the modifications produced by diseases in the function of regressive metamorphosis of tissue, and yet it is very obvious that here our observations, if properly directed, can hardly fail to lead to results of very great importance. The exhalations from the skin and lungs, the urine, and the feces, are so many points upon which to concentrate our efforts; and by carefully studying these several excretions, a vast amount of knowledge may be obtained relative to the pathological actions going on within the system. The facility and exactness with which such inquiries can be prosecuted is only beginning to be perceived, and a rich harvest is reserved for those who will devote themselves to this field of labor.

The condition of the urine in intermittent fever has been observed by Bec-

querel,[1] and more recently by Stuart[2] and others. Becquerel's investigations are of the most limited character, being confined to the determination of the specific gravity and general characteristics of the excretion. Stuart's researches are also very unsatisfactory, and not of such a character as to lead to any conclusions worthy of reliance—no means of analysis other than the microscope having been employed.

The action of the disulphate of quinine upon the urine has, within a short period, been investigated by Ranke,[3] who found that the principal effect of its administration was to diminish the amount of uric acid excreted.

During a recent attack of intermittent fever of the tertian type, I had the opportunity of studying, in my own person, the effects produced by this disease on the physical and chemical qualities of the urine, and also of noticing the results ensuing from the administration of the disulphate of quinine.

There are many obvious advantages to the physiologist, and also to the science which he represents, in basing his conclusions, whenever practicable, on investigations instituted upon himself. He is assured of their correctness, and knows fully the conditions under which they are performed. On the contrary, when others (such at least as are most likely to come under his observation) are the subjects of his researches, he can never be certain that his directions have been complied with, or that he has not been otherwise deceived.

The investigations upon which this paper is based, being confined to one individual, are necessarily not such as to lead to general conclusions, and are only submitted as a slight contribution to our common stock of knowledge. Aside from their correctness, therefore, I have but little to claim for them.

The quantity, specific gravity, and general appearance of the urine were noted, and the amount of its urea, uric acid, free acid, chlorine, and phosphoric and sulphuric acids separately ascertained. The methods used in these determinations were the same as those employed in previous researches, and as elsewhere indicated.

The attack commenced at about 3½ o'clock P. M., on the 4th of January. The cold stage lasted about 35 minutes; the hot until near 10 P. M., when profuse perspiration ensued, and I fell asleep and did not awake till morning.

I was eating a hearty dinner when the paroxysm commenced. At 6½ P. M. I ate a little bread and butter and drank a cup of tea. At breakfast the following morning I ate as usual. As far as possible, my food was the same throughout the investigations, and my general mode of life was not materially changed.

At the commencement of the cold stage, the bladder was evacuated of its contents. At about 4½ P. M., it was again emptied. The quantity passed at this time amounted to 93.4 cubic centimetres, and had a specific gravity of

[1] Séméiotique des Urines, p. 286; and Traité de Chimie Pathologique, p. 345.
[2] Charleston Medical Journal and Review, May, 1857, p. 323.
[3] Medical Times and Gazette, May 30, 1857, p. 537.

1016.35. It was of a pale straw colour, and deposited no sediment on standing. The reaction was feebly acid. Before going to sleep, I passed 283.9 cubic centimetres of urine, having a specific gravity of 1022.19. This was of high colour, strong acid reaction, and by morning had deposited a heavy lateritious sediment. On examining this with the microscope, a few crystals of uric acid were perceived.

In the morning, after rising, 495.3 cubic centimetres of urine were evacuated, the specific gravity of which was 1020.43. It was of high colour and strong acid reaction. A copious lateritious precipitate was thrown down after a short time; it consisted of urates and a little free uric acid.

For the whole period of twenty-four hours ending at 3½ P. M. on the 5th, the urine was as follows:—

Quantity	1221.7 c. cm.
Specific gravity	1020.06
Urea	325.18 grains.
Uric acid	28.39 "
Free acid	39.40 "
Chlorine	95.42 "
Phosphoric acid	69.18 "
Sulphuric acid	32.11 "

During the subsequent twenty-four hours of intermission, the urine was of the ensuing character:—

Quantity	1650.4 c. cm.
Specific gravity	1022.17
Urea	480.37 grains.
Uric acid	16.84 "
Free acid	34.73 "
Chlorine	114.58 "
Phosphoric acid	52.95 "
Sulphuric acid	38.14 "

From these records it is perceived that during the intermission there was an approach to the normal condition of the excretion under consideration. The quantity of urine, its specific gravity, and the amount of urea, chlorine, and sulphuric acid had increased, whilst at the same time the uric acid, free acid, and phosphoric acid had very considerably diminished.

The second paroxysm came on at about 4 o'clock P. M. on the 6th, and was of similar character to the first. At the termination of the chill, 104.5 cubic centimetres of urine were passed, the specific gravity of which was 1017.41. It was of a pale yellow colour, of feeble acid reaction, and remained clear. During the hot stage I evacuated 325.01 cubic centimetres of urine, of 1021.32 specific gravity, high colour, and strong acid reaction. After standing long enough to reduce its temperature sufficiently, a heavy precipitate of urates was thrown down, in which, with the microscope, a few crystals of uric acid were perceived. The urine passed after rising in the morning

amounted to 518 cubic centimetres, was of 1022.04 specific gravity, and possessed the characteristics of that last described.

The following table shows the amount and character of the urine for the whole period of twenty-four hours ending at 3½ P. M. on the 7th:—

Quantity	1387.2 c. cm.
Specific gravity	1019.45
Urea	300.16 grains.
Uric acid	31.54 "
Free acid	35.72 "
Chlorine	108.11 "
Phosphoric acid	72.95 "
Sulphuric acid	41.76 "

At 4 o'clock P. M. on this day, I took ten grains of the disulphate of quinia, ten grains at 11 P. M., and the same quantity at 10 A. M. the following day. The paroxysm which would have ensued at about 4 P. M. was thus prevented.

The urine passed during this period of twenty-four hours was of the ordinary normal colour, and of tolerably strong acid reaction. No sediment was deposited on standing.

The following table exhibits its characters more in detail:—

Quantity	1750.3 c. cm.
Specific gravity	1024.67
Urea	589.43 grains.
Uric acid	13.79 "
Free acid	27.54 "
Chlorine	129.83 "
Phosphoric acid	55.27 "
Sulphuric acid	46.18 "

The presence of quinia was demonstrated by means of Herapath's test and viewing the crystals formed, with the microscope and by polarized light.

The effects resulting from the administration of the quinine are thus shown to have been well marked. The quantity of urine, its specific gravity, and the amount of urea, chlorine, and sulphuric acid were increased, whilst the uric acid, free acid, and phosphoric acid were, on the contrary, diminished.

From 3½ P. M. on this day to the same hour on the following day, I collected the urine evacuated, and submitted it to analysis. No quinine was taken during this period, and no paroxysm of the fever occurred.

Quantity	1806.3 c. cm.
Specific gravity	1024.81
Urea	638.20 grains.
Uric acid	12.71 "
Free acid	25.80 "
Chlorine	138.27 "
Phosphoric acid	56.22 "
Sulphuric acid	40.10 "

The above table exhibits pretty nearly the average condition of my urine in its normal state. It is seen that, notwithstanding no quinine was taken, the excretion maintained its general character of the previous day.

No more paroxysms ensued, and circumstances prevented me making at that time any further analysis of the urine.

The accompanying table, in which the several results obtained are collected together, will tend to facilitate reference:—

	1st day. Paroxysm.	2d day. Intermission.	3d day. Paroxysm.	4th day. Administration of quinine.	5th day.
Quantity of urine	1221.7 c. cm.	1650.4 c. cm.	1387.2 c. cm.	1750.3 c. cm.	1806.3 c. cm.
Specific gravity	1020.06	1022.17	1019.45	1024.67	1024.81
Urea	325.18 grs.	480 37 grs.	300.16 grs.	589.43 grs.	638.20 grs.
Uric acid	28.39 "	16.84 "	31.54 "	13.79 "	12.71 "
Free acid	39.40 "	34.73 "	35.72 "	27.54 "	25 80 "
Chlorine	95.42 "	114.58 "	108.11 "	129.83 "	138 27 "
Phosphoric acid	69.18 "	52.95 "	72.95 "	55.27 "	56.22 "
Sulphuric acid	32.11 "	38.14 "	41.76 "	46.18 "	40.10 "

From these data it is perceived that, during an attack of intermittent fever, the uric acid and phosphoric acid are very much increased in amount, and the urea and chlorine greatly diminished. During the intermission, there is a close approach to the normal proportions of these constituents, but a subsequent paroxysm restores the former condition. The disulphate of quinia, however, produces a permanent impression on the character of the urine, and, with the return to the natural relations existing between the several substances entering into the composition of this excretion, the disease disappears.

There are several facts indicated by the foregoing researches, to which attention may be directed. Thus the increase in the amount of phosphoric acid eliminated during a paroxysm points strongly to the nervous origin of the disease. The excess in the amount of uric acid excreted, whilst at the same time the quantity of urea was so strikingly diminished, are facts of the highest importance, and, in connection with the circumstance that during the intermission, and after the administration of the quinine, the urea was increased and the uric acid diminished in quantity, show the close relation existing between these substances, and render more probable the theory that the former body is a product of the continued metamorphosis of the latter.

From so limited an array of facts as the preceding, no hypothesis in regard to the pathology of intermittent fever can be considered as tenable. If, however, the results of these investigations should be confirmed by subsequent observers, a great step will have been made towards a satisfactory theory of this disease, and a rational idea of the therapeutical action of the disulphate of quinine may be formed. The subject is, therefore, left for the present, with the hope that others will turn their attention to the furnishing of material for its elucidation.

Art. III.—*On the Use of Iron.* By Isaac Casselberry, M. D., Evansville, Ind.

A brief notice of the anatomy and physiology of the blood will make its morbid changes during fever more evident.

Anatomy.—The blood is a living fluid tissue, which is formed and matured by the organizing force of the automatic nervous system out of the organizable constituents of the maternal blood during embryotic life.

After birth, the organizable elements of the blood are derived from the food, which is decomposed by the gastric juice. These elements are then transformed and rearranged by the organizing force of the automatic nervous branches of the stomach, and constitute *chyme.*

This is conveyed into the duodenum, in which additional organizable elements are received from the liver and pancreas. The whole mass is then transmuted and reformed by the organizing force of the automatic nervous branches of the duodenum into *chyle.*

This is absorbed by the lacteals, in which it undergoes a continued series of molecular changes and combinations, until it is deposited in the subclavian vein.

The blood consists of a vast number of cells, which are the agents the automatic nervous system employs to perform its functions in the human organism. These differ in form, size, and functional endowments, according to the varied duties they are designed to fulfil.

For practical purposes, they may be arranged into two classes; one of nutrition or reproduction, the other of secretion or removal. When the human organism is at maturity and in health, these processes should maintain a relation of exact equivalence.

Physiology.—The cells of nutrition are endowed with an elective force, by which they select and attract the nutritive elements of the blood, which they transform and rearrange into molecular combinations. These combinations undergo a continued series of molecular changes and recombinations, until they attain maturity, when the elements they have elaborated are appropriated and form constituent parts of the tissues, with which they possess identity of elementary composition and arrangement.

The cells of secretion are, likewise, endowed with an elective force, by which they select and attract the effete or worn-out elements which they transform and arrange into molecular combinations. These combinations undergo a continued series of mutations, till the elements they possess are completely elaborated in the capillaries of the depuratory glandular systems, in which they are coalesced and removed from the blood as secretory products. The form of force by which they are coalesced is a specific endowment of each of these glandular systems, by which this important change is produced.

One depuratory system cannot, therefore, compensate for deficient function in another only so far as the elements conveyed to it are identical with those of its own secretion.

The blood gives each tissue the means of repairing itself: first, by furnishing it with material of new growth; secondly, by removing from it those elements of its composition which have become worn out and useless. Were this the whole history of the blood, its investigation in disease would be comparatively easy. But it undergoes progressive changes analogous to the growth of the solid tissues. The new materials it obtains from the food are not blood at the time of their addition; they are crude immature products which subsequently mature.

The automatic nervous system endows the blood with a power to resist changes, convert crude material into its own elements, and perpetuate its own elementary composition and molecular arrangement. Physiology teaches that the abundance of cell development measures the activity and constancy of growth; and that this developmental activity in the blood is infinitely greater than in any other tissue. Cell-germs abound in the fluid of the thoracic duct. But they attain their maturity and fulfil the purpose of their creation only when received into the blood.

Not only does the blood grow, but its growth must precede that of every other tissue in the organism. It grows, then the other tissues grow at its expense.

Its functions in health will show sufficiently what peculiar difficulties attend any investigation of its changes in disease. The extreme rapidity with which all its changes transpire, and the minute quantities in which several ingredients exist, oppose great obstacles to the research; but these are greatly enhanced by the physiological fact that all the elements of the blood correspond to different periods of time, to different degrees of development, and to different developmental cells.

Viewed as an object of scientific research, human life exhibits itself in a series of manifestations, the connection and recurrence of which are determined by the changes which the food and the oxygen absorbed from the atmosphere undergo in the organism under the controlling influence of the automatic nervous system; for the first condition of life is the assimilation of nutritive material, and the second is that of a continual absorption of oxygen from the atmosphere. The intensity, the integrity, the quantity, and the quality of the molecular combinations and rearrangements of the elements of the blood depend on the mutual action of the oxygen of the atmosphere and the elementary constituents of the food.

The most convincing experiments have proved that the human organism is absolutely incapable of producing an elementary constituent, such as carbon or nitrogen, out of substances which do not contain it; therefore it follows that all kinds of food, to produce the tissues and maintain them in a normal relation with each other, must possess the elements of which the tis-

sues are composed. Fibrin and albumen, the chief ingredients of the blood, contain seven chemical elements, among which are oxygen, carbon, hydrogen, nitrogen, phosphorus, and sulphur. The serum retains in solution sea salt and the salts of potassa and soda, in which the acids are carbonic, phosphoric, and sulphuric.

The globules of the blood contain fibrin and albumen, with a red colouring matter in which iron is a constant element. They are formed out of the elements contained in the serum; because it is the atmosphere, and supplies the material for cell development, which is constantly taking place within this fluid. Hence it is the most important branch of hæmatology.

The chief constituents of the blood are compounds, in which the relative proportions are invariable. These compounds are the nascent states of the tissues, and maintain a relation of mutual dependence on each other. The blood could not become organized, nor could it promote the growth of tissues without the existence of albumen in the serum; because the globules are developed in this fluid at the expense of its albumen, and they carry the oxygen which they absorb from the atmosphere into every tissue of the organism, where it determines the changes which may transpire.

Oxygen is necessary to the growth and maturity of the tissues; it is necessary for their conservation; and it is necessary for their conversion into lifeless compounds; but it can only be introduced by the agency of the globules. These can only attain a condition favourable to the reception and conveyance of the oxygen at the expense of the primary elements of the blood, which are obtained from the elementary constituents of the food.

The absorption of oxygen and the secretion of carbonic acid gas constitute the visible functions of respiration, and the vast absorbent and secretory capacity of the lungs depends on the immense expanse of absorbent and secretory cells brought in proximity to the oxygen of the atmosphere at each inspiration, and on the quantity and quality of the molecular combinations of the elements of the blood which are developed during that period.

The food must contain and supply the elements of which the blood is composed; they must undergo normal transformation; they must grow and mature normally, before the necessary quantity of oxygen can be absorbed to consume them by combination. For a more enlarged consideration of this interesting subject the reader is invited to an essay in the *American Journal of the Medical Sciences*, for July, 1855, on the Physiology of the Automatic Nervous System, in which I maintain the unity and mutual convertibility of all the different forms of external force and of all the different forms of the automatic nervous force, and to another essay in the same Journal for April, 1856, in which I endeavour to show the causes of fever, and explain the mode in which they produce diseased transformation of the tissues.

Pathology.—From these physiological facts, it is evident that fever may assume a vast multiplicity of forms, which are manifested by characteristic symptoms. These have often been *mistaken* for the disease itself; and the

error has been magnified and perpetuated by giving them *names* which have been commemorated by *learned* authors. Symptoms are like sentinels on duty; they guard the organism, evince the existence of disease, indicate the avenues of its approach, and the degree of resistance offered by the organism, manifest its progress, portray its pathology, and proclaim its triumph or announce its extermination. Clothed in the attire of fancy, marshalled by the mandates of theory, mantled by the nomenclature of authors, they are often received and entertained in the mansion of affliction instead of the disease.

Fever is a diseased transformation of all the tissues; but the fluid tissues suffer the most, because the solid tissues are formed in them and of them. The blood contains not only the nutritive elements, but also the effete constituents of the transformed solid tissues. Both the nutritive and the effete elements are formed, matured, and appropriated by cellular combinations.

These are the agents of the automatic nervous force acting on the organizable constituents of the food, and blood, or upon the organizable elements of the transformed tissues.

The activity, the quantity, and the quality of the molecular combinations depend on the intensity and integrity of this force, manifested as nutritive attraction, molecular affinity, and effete repulsion. The nascent states of this force in any of these forms are easily transmuted; and both the developmental cells and the molecular combinations, to the formation of which it contributes, as the formative or organizing force, will partake of the abnormal mutation. Hence the vast number of symptoms which arise during the incipiency and course of fever. The cells of nutrition neither grow nor mature normally; nor are their constituents appropriated to the nutrition of the tissues normally. From the diminished quantity and feeble intensity of the organizing force of the automatic nervous branches of the digestive and assimilative organs, the organizable elements of the food are not decomposed, transformed, rearranged, and absorbed in normal quantity and quality; only a small amount of nutritive material is received by the lacteals out of which blood may be formed and developed; and the molecular combinations of the cells, containing this, are so imperfect, that they cannot undergo mutations with normal force and celerity.

Imperfectly developed by molecular combination, the nutritive constituents of the blood often aggregate in some of the capillaries, in which they then constitute excessive and perverted nutrition, or inflammation. This is of frequent occurrence during the progress of fever, and merits the anxious and careful consideration of the physician.

During fever the secretory cells are neither formed, developed, nor matured normally; nor are the elements which they should normally aggregate and elaborate depurated from the blood; because the nutritive elements neither absorb a normal quantity of oxygen from the atmosphere, nor does that which is received undergo normal molecular combinations on account of their imperfect molecular development.

The imperfectly combined oxygen, when it is not consumed by molecular combination with the protein elements of the blood, acts upon those elements of the solid tissues, exciting the sensation of *pain*, when it consumes branches of the sensitive nervous tissue, producing *irregular* and *involuntary* muscular actions, when it consumes those of the excito-motory, and creating the sensation of *thirst*, *oppression*, and *suffocation*, when it consumes only those of the automatic nervous system.

During the incipiency of fever, the effete elements of the blood, therefore, undergo a series of abnormal transformations, and are chiefly retained in the blood; a lesion of nutrition and secretion exists, the organizing force of the automatic nervous system, which, in a normal state, creates, maintains, and governs the cellular formation and coalescence of the elementary constituents of the blood is increased, decreased, or perverted; there is a lesion of capillary circulation; the blood recedes from the external capillaries and accumulates chiefly in the portal venous system; a diseased transformation of all the tissues is present; *Fever exists;* it is manifested by symptoms; these assume a great multiplicity of appearances and forms, according to the pathological condition of the tissues.

There is no longer a perfect equilibrium between the processes of waste and repair; neither a normal quantity of food is desired, nor could it be assimilated, were it ingested; every tissue, therefore, suffers for appropriate nourishment.

Those more immediately concerned in the processes of nutrition most early evince the requirements of food, or the necessary elementary constituents for the repair of their tissues.

As the automatic nervous system creates, governs, and maintains all the tissues by its organizing force acting on the organizable elements of the food and blood, it is the first tissue to manifest the want of nourishment by lesion of the different forms of its force.

Quinine supplies nutritive elements to this tissue, and by this gives its different forms of force increased intensity. Its physiological effects on the organism are an increase of the developmental intensity and celerity of the cells, and a promotion of their molecular combination and coalescence, by which the transformation of the nutritive cells is increased, and those of secretion augmented. When a diseased transformation exists, it should, therefore, be carefully administered, and its effects sedulously investigated.

In the June No. of the *Cincinnati Medical Observer*, for 1857, I have given my views of the use of quinine in fever; and in the July No. of the *American Journal of the Medical Sciences* for 1857, I have discussed, at some length, the use of water in fever.

In the latter essay I have maintained that the hydrogen of the water combines with the imperfectly combined oxygen in the blood, forms water, and is removed from the blood in the form of sweat or perspiration; while the

oxygen of the water combines with the carbon of the blood, evolves heat, and is secreted in the form of carbonic acid gas.

The attention of the reader is invited to each of these essays.

After the employment of appropriate remedial agents, and the removal of the more manifest symptoms of fever, there often remains an impoverished condition of the blood, which is a fertile source of local dependent forms of disease, especially when, during the progress of fever, a chill from time to time occurs. This condition of the blood is *sensitively* evinced by lesion of nutrition, loss of nervous energy, want of appetite, muscular debility, and more or less perversion of secretion; and *it is caused by deficient developmental intensity of the molecular combinations of the elements of the blood.*

The large proportion of albumen generally found in this morbid condition of the blood, is the result of defective cell-growth; because there is more nutritive material in the serum than could have remained there, if the normal proportion of blood-cells had been developed out of it. The evidence is, therefore, almost conclusive, that the albumen which exists in the blood does not grow and mature normally, or it would be consumed by molecular combination.

The causes of fever, how slight soever they be, retard the developmental intensity and activity of the blood cells; and if they be long continued, frequently repeated, or of great disturbing force, they impair the normal molecular changes of the blood, and transmute them, with more or less celerity, into the different forms of chemical force, when life may soon become extinguished. If the abnormal mutations be arrested, a period of time must transpire before the different forms of the organizing force of the automatic nervous system can attain normal tranquillity and intensity; because the tissue of this system has suffered for normal nutrition; and its different forms of force have been so disturbed and so transmuted, that time is required for them to regain normal intensity and a controlling influence over the molecular combinations of the blood.

When this is obtained, all the forms of the organizing force are united in purpose, harmonious in action, and conspire to promote the conservation and well-being of the organism. But they require organizable elements to elicit their action; and the lesion of nutrition opposes the attainment of this grand object by not supplying all the constituents necessary to the developmental intensity of the blood-cells.

Although so minute, these cells always act harmoniously; they elaborate the constituents of the blood in a continued series of succession; each performs a definite and distinct duty; but the blood must contain all the elements, of which the tissues are composed, or these cells cannot be normally transformed and rearranged; they cannot grow and mature normally, because the absence of a single organizable element would disturb the unity of purpose and the concert of action between the different forms of the organizing force, and thereby impede the molecular growth and development of the whole. This

is precisely what always transpires during the incipiency of fever; and it is perpetuated throughout its course. The lesion of nutrition may be slight, but it is sufficient to produce and maintain the continued absence or immature condition of one or more constituents of the tissues.

The development of the blood must, therefore, be imperfect; and this imperfection will always be commensurate with the degree and duration of the nutritive lesion.

The dependence of the capillary circulation upon the normal molecular combinations of the elements of the blood always produces a lesion of this circulation proportionate to the abnormal mutations, which transpire from imperfect development of the globules.

There is, therefore, always present more or less anæmia in fever; because the morbid changes of the molecular combinations of the constituents of the blood prevent its introduction into the capillaries in normal quantity by *nutritive attraction;* and although the arterial system may be bounding and throbbing, these vessels convey an absolutely diminished quantity of blood to the capillaries.

The mechanical force of the muscular action of the heart and arteries is derived from the cellular changes of the elements of the blood at the ultimate termination of their muscular fibres; so that it must be diminished in intensity when these molecular mutations do not take place with normal force and celerity from deficient development of the globules.

Enfeebled action of the heart and arteries is, therefore, always present in fever. Their mechanical force is diminished; they only propel a quantity of blood to the external capillaries equal to their propulsive intensity; and as this is not equal to the whole quantity of the blood, a certain portion must regurgitate from the heart, at each systole, into the portal venous system.

The morbid accumulation of blood in this venous system produces an anæmic state of the external capillaries.

These abnormal states of the circulation perpetuate fever, because only a small quantity of nutritive material can be elaborated and introduced into the blood on account of the capillary lesions; and the molecular mutations of the blood in the depuratory glands are, consequently, so abnormal, that what already exists is very imperfectly depurated.

Only a limited quantity of oxygen is absorbed; but that which is received is not normally consumed by combination. Imperfectly consumed by combination, it combines with the solid tissues, producing their death and decomposition by conversion into lifeless compounds.

Fever, attended by the symptoms which arise from these states of the solid and fluid tissues, is called typhus or typhoid. It is frequently observed in the southwestern States in the autumn, when the days are hot and the nights cool, especially if fever with intermittent symptoms prevailed during the preceding summer.

Throughout the southwestern States, fever, with chills at irregular periods,

is often of protracted duration; and, during its course, the spleen is liable to become hypertrophied, and the blood poor and attenuated. When the spleen is greatly hypertrophied, and soft and yielding upon pressure, large granular globules, two or three times the size of the natural colourless corpuscles, may frequently be observed in great abundance in the blood; and usually the ordinary colourless corpuscles are in great excess in this condition of the spleen. Southwestern physicians, who have *unfortunately* employed bleeding from a large orifice in the treatment of inflammation of the lungs, when the spleen is in this pathological condition, can bear witness to the frequency of these appearances of the blood.

When this pathological state of the blood exists, the hepatic functions are always more or less disturbed by the morbid accumulation of blood altered in quality in the hepatic capillaries. This disturbance, when it is of long duration, is usually manifested by a yellow appearance of the skin, clay-coloured discharges from the bowels, and scant high-coloured urine, alternated with green fetid evacuations from the bowels, and large quantities of yellow sedimentary urine.

A serous diarrhœa sometimes supervenes upon these conditions, when the sufferer is rapidly exhausted by the continuous drain of serum. Cruveilhier, Becquerel and Rodier, Andral and Gavarret, have conclusively shown that the attenuation of the blood by bleeding decreases the quantity of the corpuscles, while the other constituents undergo little change in their proportion either to each other or to the entire mass.

The same law prevails in respect to hemorrhage and many exhaustive forms of disease. The attention of the profession is particularly invited to menorrhagia, as it affects women who reside on our southwestern alluvion *bottoms*. With them the hemorrhage often alternates with serous diarrhœa, when general anæmia is soon produced and pervades every tissue of her organism.

The human female has a peculiar law of blood-development. During about thirty years of her life she forms blood enough for herself and an infant. If she be pregnant or suckling, this redundant blood formation fulfils its purposes by nourishing her organism and that of her infant; but if she be neither pregnant nor suckling, the large blood formation, which is normal to her for these purposes, becomes excessive in their absence, and tends to effect its own cure by means of recurrent hemorrhage from the mucous membrane of the uterus, which attends the discharge of unfertilized ova from the Graafian vesicles, and constitutes menstruation when it is normal, and menorrhagia when it is abnormal from the excessive quantity of blood discharged. Lesions of this process most usually occur from general causes affecting the development of the blood; and among these, in the southwestern States, the most universal are those vicissitudes of the atmosphere which produce fever. The morbid influences of the climate or locality impoverish the blood and produce the pathological conditions which arise from the want of cell development of the blood-corpuscles.

The anæmia which so often takes place about the period of puberty in young women in the western States, consists essentially in deficient growth of blood-cells; and it is of much more frequent occurrence than is generally apprehended. During the autumn, teething children often suffer of a serous diarrhœa of protracted duration. This is perpetuated by the want of developmental activity of the globules.

The physiological effects of iron conclusively evince, that it promotes the development of the blood-cells and accelerates their maturity. This is in accordance with a general law of the human organism, that the specific stimulants of cell growth in every tissue are elements identical with the natural contents of the cells, or convertible into them.

The globules of the blood contain increments of iron obtained from the food; and from the physiological fact that these are always present in normal blood, it is self-evident that iron is absolutely necessary to animal life.

From the physiological fact that the globules do not contribute to the nutrition of the tissues until they have attained maturity; that they will not mature normally without certain increments of iron; that when these are normally present they greatly promote the developmental intensity and activity of the blood-cells; that they increase the capacity of these cells for the absorption of the oxygen of the atmosphere and for the secretion of carbonic acid gas from the blood, by which the globules assume a bright-red colour; that the blood in this manner oxidized is conveyed and introduced into the capillaries, in which its elements are transformed, matured, and appropriated to the nutrition of the tissues, evolves animal heat, and absorbs the effete constituents of the transformed tissues; and that the pathological states which are produced are those which are dependent on imperfect molecular development of the globules, and the consequent deficient oxidation and depuration of the blood; we can appreciate the causes of the perverted condition of the different forms of the automatic nervous force, the abnormal forms this force assumes in the molecular combination of the elements of the blood, when all development is deficient, and the best means to effect its tranquillity and early restoration.

Iron is the most efficient agent to promote the normal restoration of these lesions, because it supplies the element required to promote the growth and maturity of the protein globules. The effects of few medicinal substances are more immediate or more remarkable than that which results in disease from deficient cell development from the exhibition of iron.

Every physician has observed how soon, under the influence of this remedy, patients recover their natural complexion. A chemical analysis of the blood explains this sufficiently. F. Simon relates a case in which, after a few weeks of treatment, the proportion of blood globules rose from 32 to 95 in the thousand; Herberger, one in which it rose from 38 to 98; Andral, one in which it rose from 46 to 95.

Iron is seldom administered in a metallic state. It is usually oxidized, and

combined with a vegetable or mineral acid. The compounds formed by combination of iron with the vegetable acids are less powerful and efficient than those by mineral acids. The citrate and tartrate of iron are mild in their action, and they may, therefore, often be given before the stronger compounds. We not unfrequently observe that the stronger compounds of iron, when first administered, apparently increase all the anæmic symptoms, especially those referable to the stomach and head. The potassio-tartrate of iron may be given along with the bitartrate of potassa, when there is œdema of the ankles, or of the cellular tissue generally. This is a valuable compound of iron in the anæmia of females, when there is local effusion in the cellular tissue.

Several of the compounds of iron are often given in larger doses than is necessary when the design is to promote the absorption of the iron into the blood. This observation applies especially to the carbonate, sulphate, and muriated tincture. The regeneration of the globules, when much diminished in quantity and altered in quality, must require considerable time.

That the efficacy of a ferruginous compound is not in proportion to the quantity of iron it contains is shown by the fact that many mineral waters are very powerful, though they contain less than a grain in the pint. This fact clearly evinces the necessity of the greatest care in the selection of the compound we are about to employ; because the efficacy of iron often depends on the compound used and its mode of administration. Deficient cell-growth, which occasions the necessity for the employment of iron, causes a vast multiplicity of symptoms, which are produced by the functional disturbance of the visceral glands. The compound of iron should, as nearly as possible, be adapted to the particular state of the digestive organs, that it may be readily absorbed and elaborated with the nutritive elements of the blood; for this is the only mode by which iron can promote the growth and maturity of the blood. Sir James Murray first recommended the administration of iron in the following mode: Dissolve one drachm of the bicarbonate of soda in four ounces of water; then add to this one drachm of the muriated tincture of iron. The draught should be taken during effervescence. It should be repeated three or four times a day. Although the quantity of iron is small, yet it is in a state of subdivision so minute as to favour greatly the absorption of each increment. The double decomposition which takes place forms, as one of its products, muriate of soda. This saline is most congenial to the development of the globules.

During the protracted continuance of fever, diarrhœa, dysentery, or any other form of disease, during the autumn or winter in the Southwest, the use of iron according to this suggestion of Sir James Murray, is often attended with the greatest efficacy, especially when the fever, or other form of disease, assumes what is usually termed a typhoid form. The iron should be administered every three or four hours, alternated with other appropriate remedies. The minute quantities of iron and muriate of soda thus presented to the digestive and absorbent glands, which have been so long deranged and weak-

ened, stimulate and promote the growth and maturity of their cells, and thereby favour the digestion and accelerate the absorption of any nutritive or medicinal substance. This will be clearly evinced by the increased secretion, which will take place in a day or two from the beginning of the use of the iron. The biliary, urinary, and cutaneous secretions will be greatly augmented; the tongue will become more moist, the thirst less urgent, and the sleep more tranquil.

When inflammation exists, iron should be used cautiously and carefully. When fever, dysentery, or diarrhœa assumes what is called a *typhoid* state, iron is of the greatest efficacy, because it stimulates and promotes the growth and maturity of the blood-cells. The matured blood-cells absorb and elaborate more oxygen from the atmosphere; an increased transformation of the elements of the blood ensue; the capillary circulation is accelerated and augmented, and increased secretion from all the depuratory glandular systems takes place.

When a typhoid state exists in any form of disease, western physicians have often prescribed for several days without observing scarcely any effect from the medicine they had directed. Let them employ iron, as here directed, and, in a day or two, each medicinal article will begin to manifest its characteristic effects on the organism.

Muriated tincture of iron is a very efficacious compound in the treatment of menorrhagia. Its use should be continued for a considerable time. It may often be employed with the greatest advantage in fever with typhoid symptoms.

Iodide of iron is a preparation which combines in some degree the properties of iodine with those of iron, though the latter predominate. It seems to promote the secretions more than any other compound of iron. When it is not too stimulating it is one of the best tonics in the anæmia of phthisis and scrofula; and from my experience of its effects in these affections in this climate, it is *never* too stimulating. It may be advantageously employed in all cases of anæmia combined with enlargement of the lymphatic glands. It changes the molecular condition of indurated glands and promotes their absorption. It may be used advantageously in the chronic form of *many* diseases, in which calomel *should* have been employed during the acute state.

The citrated aromatic wine of iron possesses the most agreeable odor and taste of any medicinal compound of iron. It is seldom rejected by the most delicate stomach. I have directed it for children and young persons in various forms of disease with debility, and I have never found it disliked or rejected, and its repetition is most generally desired.

When excessive secretion from a relaxed state of the mucous membrane in chronic bronchitis exists, combined with wine of ipecacuanha, it is of peculiar efficacy. In all diseases which arise from deficient developmental activity of the blood-cells, it is a remedy of great value. There are many

other compounds of iron of peculiar value and great efficacy; but I cannot extend the limits of this paper by a definite notice of them.

When we contemplate the effects of the climate of the alluvion districts in the southwestern States in the production of an impoverished condition of the blood, the frequency with which this state of the blood is met with in these localities, and its injurious consequences to the organism when allowed to continue, the value of iron in the promotion of the growth and maturity of the blood-cells, and the consequent removal of this condition of the blood, can scarcely be sufficiently appreciated.

Art. IV.—*Glycerine as a Local Application in Pseudo-Membranous Croup.*

By E. R. Mayer, M. D., of Wilkesbarre, Pa.

I have lately, on several occasions, made use of glycerine as a local application in the treatment of membranous croup, with such apparent advantage as to lead me to think its employment as an aid to the management of this formidable disease, worthy of recommendation to the notice of the profession.

I was induced to make a trial of this liquid from having frequently observed the great relief obtained by its being snuffed up or injected into the nostrils in those frequently encountered forms of ozænoid disease in which the excretion hardens and dries, forming solid plugs or tubular casts of the nasal fossæ, analogous in compactness and tenacity, if unlike in composition and mode of formation, to the false membrane of croup. In such cases, the injection of warm water often fails to enable the patient to get rid of the accumulation; but the contact of a little glycerine is soon followed by the expulsion of the offending substance in a softened state and by relief of the irritation caused by its presence.

Glycerine is not only remarkable for its bland, solvent and undrying properties, and the completeness with which it sheathes surfaces exposed to its action, but for its wonderful power of adhesion, extension and penetration, particularly when applied to a mucous surface. These latter properties it has in so great a degree, that it is only necessary to apply it to a portion of a continuous secreting surface in order to secure its rapid contact with other adjacent parts of the same which may not be within reach of its convenient application. To effect its introduction into the larynx, for instance, it is not absolutely necessary to use the modes of local laryngeal medication now so much in vogue, however advantageous these may be; for its mere apposition, in any quantity, to the rima glottidis, or to the nearly adjoining surfaces, is followed by its immediate entrance into the cavity, without provoking, to any extent, the spasm and violent convulsive cough always caused by the forcible introduction of a probang sponge into the orifice. An evidence of the facility

with which glycerine travels along a moist surface and extends its influence from the fauces into the larynx, is derived from the fact that if the inferior article of commerce—which has not been entirely deprived of the irritating sulphur compounds generated during the process of separating the lead from it—be forcibly snuffed up the nostrils or even applied to the pharynx or base of the tongue, a sensation of something "going down the wrong way," and a violent paroxysm of coughing are generally produced.

In pseudo-membranous croup, the larynx is lined with an excretion scarcely more consistent or more adherent to the formative surface than that which is sometimes found upon the pituitary membrane in the cases above referred to. If the morbid product is capable of being softened down by the contact of glycerine in the one case, even in a much less degree than in the other, and if it be possible to keep the laryngeal surface bathed in the liquid for a time, it seems manifest that a great obstacle to the expulsion of the former by coughing or vomiting, and with it one of the greatest sources of danger to the patient may be removed. My experience of the use of this remedy is too limited to enable me to furnish any considerable number of cases advantageously treated by it, but is still sufficient to lead me to believe that it meets the above-mentioned requirements, and to suggest further trials of it.

I have several times during the last year applied glycerine with some apparent benefit to the fauces and larynx in mild cases of membranous croup and of other laryngeal difficulty; but as the local means were only used as a palliative after the urgent symptoms had yielded to other active treatment, I cannot rely upon the results as bearing upon this subject, and will confine myself to a notice of two cases of very recent occurrence. These were exceedingly severe and well marked cases, occurring within a few days of each other; the one, that of a boy, 18 months old; the other that of a girl 4 years old. The disease was developed in both during the decline of the eruption of measles, in each showed the characteristic fever, expression and movements, cough and respiration, the excretion being visible in the fauces in the case of the older child. Suffocation seemed imminent in both cases, when I saw them some five or six hours after the parents first became alarmed. The treatment consisted in prompt emesis by from two to four grains of sulphate of copper, by which the severity of the symptoms was mitigated, and afterwards in the rapid introduction of calomel into the system, in the use of from one to three grains of sulphate of copper dissolved in water every two or three hours, in the administration as often, but alternating with it, of tartar emetic in nauseating doses, and of that still more efficient sedative, the veratrum viride, in doses of from two to four drops of the fluid extract, for the purpose of lowering the circulation. Small blisters were also applied over the upper part of the sternum, and the application of pure glycerine to the rima glottidis was commenced and repeated at intervals whenever its use was called for by a return or increase of the brassy, ringing cough, or crowing respiration. Its application was in each instance soon followed by a manifest

softening of the tone of breathing and cough, and by considerable reduction of dyspnœa and general distress. After its use in the first instance, I was forcibly reminded of the "dry pump sound," which the croupy respiration is said to resemble, and was led to carry out the simile by the notion that the lessening of harshness of sound was almost as great after the application to the throat as it would be after oiling the dry valves and washer of the piston.

The improvement in the character of respiration continued after each employment of the glycerine usually for a few hours; but, notwithstanding the short duration of the benefit thus obtained, I found it possible in each case, by frequently repeating the appliance, to keep the disease in check and lessen the local irritation, so as to let the patient enjoy a certain average of relief throughout the illness, or until the system became sufficiently improved by the constitutional treatment. The results were, in the case of the younger child, the expectoration of softened false membrane in shreds and patches—a genuine *detritus*, mixed with altered mucus and a little dark blood, twenty hours after the applications were commenced, and in the other case relief in the same way on the fifth day of the disease, the little patient's constitution resisting powerfully the action of the depressing means. The croup symptoms did not entirely disappear in either case until a day or two after the expulsion of the false membranes, but the patients were soon convalescent. Expectoration was promoted and recovery hastened by the administration of small doses of quinia and of chlorate of potassa with syrup of senega.

I made use of Price's Candle Company's glycerine, an article much superior to any that I have seen, and applied it by pressing down and drawing forward the tongue with the finger, and squeezing out the contents of a long and thick camel's-hair brush, dipped in the liquid, over the chink of the glottis, or as near it as possible, concluding the operation by swabbing the whole throat. I was prepared to employ a sponge attached to a piece of curved whalebone, but was so well satisfied with my success with the brush, that I did not think it necessary to use the former. The sponge or charpie, imbued with glycerine, will doubtless be preferred in many cases, and may be required in some.

If I am not mistaken in my opinion of the advantages resulting from this mode of treatment, it is evidently applicable to other diseased states of the respiratory passages.

ART. V.—*On the Local Application of Belladonna with Mercurial Ointment in the Treatment of Croup.* By JOHN D. SHELTON, M. D., of Jamaica, Queen's County, New York.

SOME three years ago, in a case of inflammatory croup which I was treating, the idea occurred to me that, in addition to the ordinary treatment which

I was pursuing with considerable activity, I might, perhaps, derive much benefit from the local application of a combination of belladonna and mercurial ointment; supposing that, besides the powerful influence produced by the local absorption of the mercury the relaxing effect of the narcotic, no less than its peculiar influence on the mucous lining of the throat would be produced, and that the combined impression thus made on the disease would at least materially aid the internal remedies.

I accordingly put the idea into immediate practical operation, and as I supposed with at least some benefit. The preparation used was the following: ℞.—Ext. belladonna ʒij; Ung. hydrarg. mite ʒvi.—M. This was rubbed freely every two hours on the sound skin over the trachea.

I used this application in the same way afterwards in one or two other cases, and finding the result justified my anticipation, at least measurably, I reported the cases at a meeting of the Queen's County Medical Society, held not long afterward—with the request that if any gentleman should see fit to employ it, and should derive any benefit from it, he would report his experience.

My friend, Dr. William Stren, of Oysterbury, having been called not long afterwards to a case of croup in consultation, recommended the use of this application; but, whether from misunderstanding my remarks or as an improvement of his own I know not, advised the ointment to be applied to a blistered surface. I subjoin the following report of this case, with which Dr. S. has kindly favoured me, in his own words:—

"The case to which you refer occurred in the adjoining village of Cold Spring, under the care of Dr. Fernan, in a healthy looking boy of four years, who was suffering with the usual symptoms of cynanche trachealis.

"He had been treated with the usual remedies in such cases, including calomel and ipecac, for some three or four days, when his symptoms became so aggravated that I was called in consultation in regard to the operation of tracheotomy.

"When I saw him, which was about 8 A. M., his breathing was very laborious, with sonorous inspiration, and from the anxious expression of his countenance you would have supposed suffocation inevitable. He had been freely vomited through the night and also that morning, and had just had applied to the throat a blister of cantharides. There was a disposition on the part of the friends to defer the operation as long as possible, if there was the least possible chance in any other means.

"I recollected your remarks in regard to the effect to be expected from the use of the ext. belladonna and mercurial ointment in such cases. I therefore advised Ext. belladonna ʒi; Ung. hydrarg. ʒiij.—M., to be immediately applied to the blistered surface, and promised to see him again at 4 P. M. Judge of my delight on my return to find every symptom of suffocation relieved; his breathing easy; his surface soft and relaxed, and from his disposition to doze, and the dilatation of the pupils, his whole system evidently under the specific effect of the belladonna. I therefore ordered the dressing removed, and simple sperm ointment applied; with directions to resume the belladonna ointment, if there should be any return of symptoms of suffo-

cation. I saw him again the following morning, and found he had rested well through the most of the night. He now took a mixture of syrup of ipecac and squill to relieve the dryness of his throat. I discontinued my visits from this time, and the child convalesced rapidly."

In the early part of last winter (1856), I was called to an old lady whom I had attended on two previous occasions in severe attacks of acute laryngitis, and whom I then found suffering with a fresh attack of the same terrible disease. The symptoms were entire and persistent loss of voice—except in a whisper—a hoarse, barking, croupy cough; fever, dyspnœa, and suffocation, stridulous inspiration, and inflammation of the tonsils and epiglottis. On both the previous occasions I had applied a strong solution nitr. silver to the fauces and epiglottis, and blisters to the throat, besides the active and continued use of calomel, ipecac, and opium, with decoction of seneka and other expectorants internally. But on both these occasions the disease had proved obstinately stubborn, and the patient had barely escaped with life, having on one occasion been unable to speak above a whisper for upwards of three months. I attributed the recovery in these cases to the constitutional effect of mercury, pushed to ptyalism. On this occasion, I think in the month of January, 1856, as I took no notes of the case at the time, having now employed the local application of the belladonna and mercury in several cases with good effects, and fortified by Dr. Stren's astonishing case, I determined to commence my treatment with this application to a vesicated surface. The symptoms were precisely similar to those on the two previous occasions, with loss of voice, hoarse, barking cough, and suppurative dyspnœa. I applied a blister of cantharides forthwith, and ordered it dressed with the following: ℞.—Ext. belladonna ʒj; Ung. hydrarg. mite ʒij; Lard ʒj.—M. This application was made in the forenoon. Early in the evening of the same day I was hastily summoned; when I found my patient delirious, walking around the room, or rather staggering, catching at spectres, and with pupils largely dilated. She was fully under the influence of the narcotic, although, I must confess, it was not my intention to have produced this effect; at least, not to such an extent. Her friends were alarmed. I had her feet put in mustard water; gave her a weak solution of antimony, and bathed the forehead and temples with cold water. I should have added that her voice had returned, although hoarse from the peculiar effect of the drug on the mucous lining of the fauces and larynx.

The narcotic symptoms passed off during the night, and at my visit on the following morning, her voice was natural, and her breathing easy and natural. Recovery was prompt and uninterrupted.

On Sunday, Nov. 29, 1857, I was again called to a child of two years with croupy symptoms. In the same family, an older child was also affected with influenza and cough, and the old grandmother showed commencing symptoms of a fresh attack. The children gave way readily to a solution of antimony with Dover's powder at night and mustard foot-baths—but the old lady proved stubborn. She again had hoarse cough, with difficulty of respiration and of swallowing, and loss of voice. I examined her throat and found the tonsils and fauces inflamed and swollen. I gave her calomel and opium, an antimonial solution with strong decoction of seneka root. I also ordered the following: ℞.—Ext. belladonna ʒij; Ung. stramonium, Ung. hydrarg. mite, ää ℥ss.—M. to be thoroughly rubbed over the larynx and trachea every two hours; having first held to the throat, for a few moments,

a sponge soaked with hot water. No benefit was, however, perceptible, and the symptoms were rather increasing in severity, when I applied a blister over the trachea (Wed., Dec. 2), and had it dressed with the following: ℞.—Ext. belladonna ʒss; Ung. hyd. mite ʒj; Lard ʒvi.—M. At my evening visit of the same day, I was delighted to find she had again recovered her voice and was evidently much relieved in all respects, although no other narcotic effects were perceptible from the belladonna than a feeling of confusion and giddiness, with some blindness, but no delirium or other alarming symptoms. I am most happy to add that the progress of this case to entire recovery has been, as on the former occasion, almost immediate and uninterrupted, as she continues at this date (Dec. 8) entirely well, having merely taken internally a decoction of seneka root and slippery elm bark.

I now feel it my duty to submit this treatment with these illustrative cases—few in number, it is true, but certainly strongly marked and highly gratifying—to the judgment of the profession, to be confirmed or condemned by a further and more ample experience.

The district of country in which it has been my lot to practise physic is a marshy and malarious one, about nine miles distant, north, from the sea. Surrounded by a belt of swampy and undrained low grounds, the constant exhalations from these, mingled with the sea air, produce a dampness in our atmosphere peculiarly favourable to the production, no less of intermittents than of throat affections. These latter are peculiarly rife. Although croup, as compared with other prevalent diseases here, is somewhat rare, yet, as compared with its occurrence in other places, it is, perhaps, somewhat frequent. In my treatment of this disease, although my main reliance has been on antimony and calomel combined with Dover's powder; and although a very large proportion of cases have yielded readily to these far-reaching and powerful means, yet I have had the distress and misfortune to be compelled to witness the death, by lingering strangulation, of a very considerable number of lovely children, during the last eighteen years, from this fearful disease, in which I had actively and faithfully, though vainly employed, I believe, every variety of treatment—save only tracheotomy—known to the profession. I have employed the turpeth mineral successfully in some cases, but with no benefit in others. I have succeeded in saving some cases by the topical application of nitrate of silver, but have had a number die in my hands where this remedy had been used freely. Of late, I had begun to turn my attention to tracheotomy as a last desperate resort, where death might seem inevitable without it. Whether the treatment which I now propose may be likely to prove a new and important addition to the list of remedies in this awful disease, and especially as a substitute for tracheotomy, I fear to speak with confidence; yet I cannot but indulge the hope that it may.

Why might not belladonna, from its peculiar effect on the throat, be advantageously administered internally in this disease, in conjunction with calomel and ipecac, and the other ordinary remedies?

I have never, as yet, employed it in this way myself; but I am strongly

inclined to believe in bad cases it would materially increase the efficacy of the ordinary treatment. I have seen not the slightest allusion to its employment in this disease in any article or treatise I have as yet met with.

A valuable article on the employment of this narcotic in pertussis, was published by Dr. Hiram Corson, of Montgomery County, Pa., in the No. for Oct. 1852, of this Journal. In that article he ascribes the credit of that peculiar treatment in pertussis to Dr. Jackson, of Northumberland, and I can bear my testimony to its value in that disease. But no allusion whatever is made to its employment in croup. That it might control the paroxysms of laryngismus, might be readily conceived; but I think no person of ordinary acumen would confound the distinction between that disease and cases of a truly inflammatory affection, so well marked as those reported in this article.

December 9, 1857.

ART. VI.—*Report of Cases treated at the Surgical Clinic of the University of Pennsylvania.* By J. J. WOODWARD, M. D., of Philadelphia, Assistant to the Surgical Clinic.

CASE I.—*Reduction of an Anterior Luxation of the Humerus of nearly four weeks' duration by manipulation, with the aid of Anæsthetics.*—The interest excited in the minds of surgeons by the success which has attended Reid's plan of reducing luxations of the head of the femur, renders important every attempt to carry out similar principles in the treatment of other luxations, because such attempts are indicative of the progress of scientific surgery, and the substitution of anatomical and physiological knowledge for the purely mechanical force which has hitherto characterized the treatment of these injuries.

The case which illustrates these points was presented to the medical class at the Surgical Clinic of the University of Pennsylvania, Jan. 6, 1858.

The patient, J. D., was a blacksmith by trade, æt. 35, of powerful frame and great muscular development, and the luxation, which was of more than *three weeks'* standing, affected the right shoulder, the head of the humerus resting beneath the clavicle and under the pectoral muscle.

Professor Henry H. Smith, in presenting the case to the class, stated that he had for some time thought that the treatment of luxations by manipulation alone, as recently described by Dr. Reid, of Rochester, in connection with the femur, might with great propriety be extended to other articulations, and he wished to test its applicability to the humerus in the present patient. He should especially hope for the success of proper manipulations in luxations of the shoulder, because the shallow glenoid cavity presented certainly

less mechanical difficulty than the brim of the acetabulum, and judicious rotation would probably be sufficient to bring the head of the bone into its proper articular position.

The following plan for effecting the reduction of anterior displacements was therefore suggested. The patient being first fully etherized, the arm of the injured side was to be carried off from the body as nearly to a right angle as possible, and the forearm flexed at a right angle with the arm. Then using the forearm as a lever, the head of the humerus was to be rotated downwards and backwards, by causing the palm of the hand to describe an arc backwards and downwards, when, as was presumed, the head of the bone would without difficulty slip into the axilla. The rotation of the humerus being now carried a little further by continuing the motion of the forearm the head of the bone could, it was thought, be brought upon the inferior edge of the glenoid cavity, when a gentle reversion of the manipulation would cause it to slip into its place by bringing it to the anterior edge of the glenoid cavity at the point where the capsular ligament had been torn.

The patient being now etherized, Dr. D. H. Agnew, at the request of Dr. Smith, proceeded to practise the manipulation as suggested; when the head of the bone was readily thrown first into the axilla and afterwards into the glenoid cavity. During the manipulation the inferior angle of the scapula was steadied by the hand of an assistant.

The success of this mode of treatment is note worthy, not only on account of the great muscular development of the patient, but also because of the length of time which had elapsed since the occurrence of the injury, and the case is certainly well calculated to recommend the manipulations suggested by Prof. Smith to the favourable consideration of surgeons. Close attention should be given during the manipulation to the proper rotation of the head of the bone; its object being chiefly to modify the action of the supra and infra-spinatus muscles which are much stretched in all anterior and axillary luxations.

Case II.—*Chronic Hydrocele of large size cured in two weeks by Excision of the Tunica Vaginalis Testis.*—B. C., A carpenter by trade, about forty years of age, was presented at the Surgical Clinic, Wednesday, September 30, 1857, labouring under a hydrocele of great size, which had been previously tapped several times, and once injected with iodine in hopes of obtaining a radical cure. The effusion, however, had returned in spite of treatment, and the tumour had now regained its original bulk containing over twenty ounces of serum.

The patient being fully etherized, the operation consisted in slitting up the tumour with a sharp-pointed bistoury to the extent of three inches and a half, thus permitting its liquid contents to escape; after which the tunica vaginalis was rapidly dissected free from its attachments to the scrotum and excised with scissors, except that portion of it which was immediately connected with

the testicle. The wound was then closed by sutures and adhesive plaster, except at its lower angle, into which a mesh of lint was inserted. It rapidly healed by the first intention, except this lower portion, which granulated, and was not entirely healed until about two weeks after the operation. No orchitis followed, and the patient was only confined to bed about four days.

Examination showed the excised portion of the tunica vaginalis to be thickened to the extent of $\frac{1}{8}$th to $\frac{1}{4}$th of an inch; the thickness being due to abundant new formation of white fibrous and yellow elastic tissue in various stages of development.

It will be perceived that this operation closely resembles that of Boyer (see Malgaigne's *Operative Surgery*, Philad. edit., p. 451), from which, however, it differs in certain points. Boyer completely dissected out the tunica vaginalis before it was incised, while it was still distended with fluid, and afterwards incising the tumour to permit the fluid to escape, he excised with scissors the part of the tunica vaginalis not connected with the testicle and cord. This method, while giving, perhaps, some facility to the separation of the scrotum from the tunica vaginalis, is objectionable, because it completely separates from the scrotum that part of the tunica vaginalis left in connection with the testicle and cord, which was not done in the operation practised in this case. Boyer's operation, therefore, would be more liable to be followed by orchitis, purulent infiltration of the scrotum, or sloughing, than that here reported.

Case III.—*Hydrocele cured by Excision of the Tunica Vaginalis.*—C. R., a German labourer, about fifty years of age, was operated upon Saturday, Nov. 28, 1857, at the Surgical Clinic. The tumour in this case was of great size, and had once been operated upon palliatively, but had since returned. The plan pursued was the same as that employed in the last case, and was equally successful, the patient not being confined to bed more than four or five days, and the wound being entirely healed in about two weeks from the date of the operation.

It is not claimed that the plan of treating hydrocele here detailed is new in principle, excision of a small part of the tunica vaginalis having been frequently practised, and Boyer's operation, of which this is but a modification, being well known to surgeons. The object in publishing these cases is, therefore, simply to call attention to the great *practical advantages* of excision in the treatment of hydrocele as it is believed to be at once more certain, safer and more speedy than the iodine injections so commonly employed. The patients being etherized, suffered but little from the operation.

Case IV.—*Epithelioma of the Lip of seven years' standing cured by the application of Powdered Sulphate of Zinc.*—Mrs. S., æt. about 55 years, was presented at the Surgical Clinic, Saturday, Dec. 5, 1857. She had a well-marked epithelioma on the upper lip of a triangular form, extending from the angle of the mouth to the ala of the nose, thus occupying the greater

part of this side of the lip. The growth was nodulated and irregular, and its surface ulcerated. The free margin of the lip was indurated, and the case being of seven years' standing, certainly appeared an unfavourable one.

In accordance with a suggestion made some time since by Prof. Simpson, Edinburgh, the ulcerated surface was dusted freely with the dry sulphate of zinc reduced to a fine powder. Over this a piece of lint was placed, which was secured in position by being saturated with collodion. This dressing was retained for about a week, when it was loosened by the discharge of the ulcer and came away. It was reapplied as before, and so on during nearly two months, at the end of which time the growth had entirely disappeared and the ulcer was healed, presenting a normal cicatrix. There was no serious puckering or deformity of the lip, and the cure was apparently quite complete. Little or no pain was produced at any time by the application.

ART. VII.—*Medical and Surgical Notes of Campaigns in the War with Mexico, during the years* 1845, 1846, 1847, *and* 1848. By JOHN B. PORTER, M. D., Surgeon U. S. Army.

(Concluded from *Journal* of October, 1853.)

A BRIEF review of the diseases of our army at the close of the war in 1848, will conclude our remarks.

On the return of our army to the United States, in the year above mentioned, an encampment of regular regiments was formed at East Pascagoula, Mississippi. This summer resort is situated on Pascagoula Bay, near the mouth of Pascagoula River, about sixty miles from Mobile, and one hundred and twenty from New Orleans. The village stands on a somewhat elevated ground or bluff, which gradually slopes about two miles to Green Wood Island, which is low and flat, so that high winds during storms sometimes drive the waves over it, as in 1821 and 1853, in which years it was submerged. On this island the General Hospital for the encampment was established.

In the first part of July, the regiments began to arrive at Pascagoula, direct from Mexico; and, by the end of the month, the encampment, consisting of five regiments of infantry, was fully formed, extending from the outskirts of the village to within one-quarter of a mile of Green Wood Island. Seven companies of dragoons were encamped on the other side of the village, two or three miles south of the hotel. Brevet Major-General Twiggs commanded the whole.

The troops arrived at Pascagoula in bad condition. The men were suffering from chronic diarrhœa, chronic dysentery, and a scorbutic diathesis.

Chronic diarrhœa and chronic dysentery were much the most common diseases in the encampment. The following extract is taken from my reports to the Surgeon-General:—

"From the arrival of the regiments, patients rapidly multiplied, and the cases were of the worst description, being mostly chronic bowel affections. For a large number of these cases medical treatment was useless, further than to render the situation of the patient as comfortable as possible.

"Many of the men who were admitted into hospital, with chronic diarrhœa and dysentery, date the commencement of their complaint three, four, six, ten, and even thirteen months anterior to their arrival at this point; numbers of these men were emaciated to the last degree, being literally 'skin and bones,' and in some of the patients it seemed as if the loose integuments could be easily made to form a second covering for the attenuated limbs. It must be evident that a great amount of labour was required of the hospital attendants, to render the patients comfortable and keep the hospital in decent police—the clothing and bedding of the sick having to be frequently changed. One patient required three complete changes in twenty-four hours—to the very bedstead—for several days, and even then it was scarcely possible to keep him in a decent condition. These chronic diseases originated at all points on General Scott's line of operations.

"The treatment of confirmed diarrhœa and dysentery of long standing is very unsatisfactory in its results. The changes have been rung on all the remedies recommended for such diseases.

"Several autopsies were made during the season. In most, ulceration of the large intestines was found, to a greater or less extent; but, in some cases of long standing, when the patient would seem to be almost or quite cured of the bowel affection, emaciation would increase, and the patient sink from sheer exhaustion apparently; in these cases ulceration might not be found, but there was almost always a morbid condition of the mesenteric glands; want of nutrition seemed to be the cause of death, the patient at last dying of inanition, the system subsisting on itself until extreme emaciation and death were the result."[1]

Yellow fever prevailed to some extent, and was malignant. To the contagionist it may occur that the disease was imported from Vera Cruz, New Orleans, or Mobile; but this is not the fact. The first case, private John Martin, Third Infantry, was admitted into hospital, September 3, from the head-quarters of General Twiggs, which were between one-fourth and one-half mile from the Pascagoula Hotel. Martin was General Twiggs's orderly. The regiments marched directly through Vera Cruz, without stopping in that town, and went on board ship to the port of destination. None of the regiments went to New Orleans or Mobile, but the transport ships sailed from Vera Cruz to Pascagoula direct. The Third Infantry arrived and placed the sick in hospital on the 21st of July; Martin was taken sick on the 1st of September, and was attended until the 3d by a regimental surgeon—was in the second stage of the disease when he came to hospital. Recovered.

From the 21st of July to the 1st of September, there are forty-two days;

[1] In some cases, the liver was enlarged, of a yellowish or clay colour, dry, friable, anæmic, the gall-bladder nearly empty. Mucous membrane of the stomach eroded, softened, and easily scraped from the subjacent coat: same membrane of the lower portions of the small intestines injected. Kidney congested; spleen enlarged and congested.

add eight days for an average passage from Vera Cruz, which is a good run for a sailing vessel, and we have fifty days from Vera Cruz to the first case in the camp at Pascagoula. The troops came from Vera Cruz in a perfect state of health, so far as fever was concerned. The transport ships were clean and in good condition; they could not get nearer to Pascagoula than three or four miles, by reason of the shoal water; and the troops, baggage, stores, &c., were transferred to light draught steamers. The fever was of local or domestic origin, and there is no probability of its having been imported from any place whatever.

The second case of yellow fever was admitted into hospital from the Fourth Infantry, on the 10th of September, and on the 11th two cases were admitted from the Second Infantry. From this time, scattering cases of this fever occurred in all parts of camp, and the last one was taken sick on the 19th of November.

Fever was somewhat prevalent during this season on the coast of the Gulf of Mexico. There was yellow fever in New Orleans and Mobile, and in the country around Pascagoula there were several remittent and congestive fevers. In several instances, these fevers assumed the yellow fever type.

The whole number of yellow fever cases admitted into hospital among soldiers, discharged men and teamsters, was 32. Add 5 cases among hospital matrons, and we have 37 cases in all. It can scarcely be contended that a disease is contagious when only thirty-seven cases occurred in more than two and a half months. From the first of September, the contagion should have gradually and surely spread, so that in two months, or by the first of November, a large proportion of the troops and camp followers should have contracted the disease, and no one connected with the hospital should have escaped. It is the duty of hospital matrons in the army to do the hospital washing; 5 of them had yellow fever, 9 of them had no fever of any type. It is incredible, that a contagious fever should appear in a camp filled with hundreds of persons of all classes; and that only thirty-seven cases of this malignant and contagious fever should occur. We would say, unhesitatingly, that such a disease is not contagious.

A negro man died of yellow fever in October, on the main land, more than two miles from the hospital, and at least four miles from Pascagoula. This man often came to Green Wood Island, to supply the hospital with necessaries, and hence it might be inferred that he contracted a contagious fever from the patients; but if this were the fact, the case is not altered. How could the man's wife, children, and many other persons, both white and coloured, who were in the house during his illness, escape the disease?

The last case of yellow fever occurred on the 19th of November, as before stated, in the person of private John Kauffold, Third Infantry. Orders came from General Taylor to break up the hospital and transfer the sick to New Orleans Barracks, and on the 23d—Kauffold being in a critical situation—they were put on board a steamer. He was very sick—had hemorrhage and

every symptom of the fever except black vomit, and was placed in the hospital of New Orleans Barracks on the 26th, with other sick and invalids. Hemorrhage continued, and there was no visible improvement in the patient's condition until two or three days after his arrival. He recovered. Not a single case of yellow fever occurred afterwards on the steamer, nor was there a case at New Orleans Barracks, in consequence of shipping this man and putting him in hospital with others.

We came to the following conclusions:—

1. None of the transports were infected, nor was there a case of yellow fever heard of afterwards in any of them.

2. The yellow fever was not imported from Vera Cruz, nor was it brought from any other place.

3. The fever was of local or domestic origin.

4. The fever was not contagious.

We have been particular in giving the origin and history of this fever, for it is commonly asserted that yellow fever never originates at the villages and watering places "over the lake;" but that the disease has been, in all cases, carried from New Orleans; and that, hence, it is contagious.

We (Assistant Surgeons Perin and Stone and myself) made several autopsies. Heart apparently healthy, containing coagulated blood. Lungs in general healthy: in one case there were recent adhesions of the right lung to the costal pleura, and hepatization. In every case we found an inflammatory condition of the mucous membrane of the stomach—the inflammation being in some cases pretty general and sometimes more intense at some points than at others, softening, abrasions, &c. In some cases the membrane was so much softened as to be easily rubbed off or separated. In almost every instance the matter of black vomit was found, whether the patient had thrown it up or not. The liver was anæmic, often dry and friable, and presented, on being cut into, more the appearance of *ginger-bread* than anything it can be compared with. Gall-bladder often nearly empty, sometimes partly filled with dark bile. Spleen generally enlarged, congested, and sometimes softened. Kidneys congested. The brain and spinal column were not examined, on account of our numerous engagements and hard duty.

Consolidated Report of Sick, Mortality, &c.

Whole number of cases	757
" " deaths	137
Mortality per cent.	18.10
No. of fever cases	98
" deaths	22
Mortality per cent.	22.44
No. of fever cases, exclusive of yellow fever	66
" deaths	8
Mortality per cent.	12.12
No. cases of yellow fever	32
" of deaths	14
Mortality per cent.	43.75

No. cases of diarrhœa and dysentery	449
" of deaths	100
Mortality per cent.	22.27

Add to the yellow fever table 5 hospital matrons, who had the disease, and one death, and we have 37 cases and 15 deaths—a mortality of 40.54 per cent. To be strictly correct, however, there were 6 cases of yellow fever and 1 death among the matrons, making 38 cases in all, 15 deaths, and a mortality per cent. of 39.47 The matron who died had two distinct attacks of the fever, with a considerable interval between them. This case was sufficiently alluded to in a former paper.

The mortality from all diseases was aggravated by the scorbutic diathesis, so prevalent among the troops. A person with this diathesis, and suffering at the same time from chronic disease of the bowels, could stand but a poor chance when attacked by yellow fever.

It appears, then, that the yellow fever was not imported into the camp at Pascagoula from abroad; that the fever did not spread in the camp generally, nor among the inhabitants of the vicinity; and that a case of malignant fever (introduced from Pascagoula) did not affect the troops at New Orleans Barracks, although the garrison consisted of two companies of unacclimated men, who had never been exposed to the disease. I had charge of the General Hospital, organized it, and remained with it until the sick were removed to New Orleans Barracks; and it is my opinion, that the fever at Pascagoula was of local or domestic origin.

Yellow fever occurred at New Orleans Barracks in the years 1847 and 1848, among invalids and others; and as it was contended by some that the disease was imported to New Orleans by the troops from Mexico, and spread by contagion, we will briefly examine into the circumstances attending the origin and progress of this fever at the barracks. The facts which will be presented, were obtained and committed to paper during the winter of 1848–9, from the hospital records and Surgeon W. S. Sloan, U. S. A., who gave much valuable information. The General Hospital at New Orleans Barracks was in charge of Surgeons R. C. Wood and W. S. Sloan, U. S. A., in 1847 and 1848.

1847. Third quarter.—No. of cases	25
" deaths	...
Fourth quarter.—No. of cases	13
" deaths	8

Many of these cases supervened on other diseases, the patients having been admitted into hospital a considerable time previous to the attack of yellow fever. The first patient with yellow fever was a recruit belonging to the post; admitted August 26; recovered. He had never been to Mexico. The next case was admitted August 27, in a man who had been in Luzenburg's Hospital, N. O. The third and fourth cases were recruits of the Thirteenth Infantry, from Mobile; admitted September 8. They had not been in Mexico.

1848. Third quarter.—No. of cases	. . . . .	8
" deaths	. . . . .	8
Fourth quarter.—No. of cases	. . . . .	3
" deaths	. . . . .	3

The first case was from a ship from a Mexican port; admitted July 9; died July 10. The four next cases came to hospital July 22, from a ship in the river, from Mexico. The next case was from a ship in the river, August 2. All of these men were in a desperate or dying condition when received into hospital. The next case was that of Assistant Surgeon Newton, U. S. A.; taken sick August 4; died August 9. Assistant Surgeon Sloan informed me that Dr. Newton probably contracted the disease by often walking to the city proper—a distance of nearly five miles—in the hot sun; nor was the fever attended to sufficiently early and perseveringly. The next case was that of a hospital attendant who had a severe frolic in the city; taken sick September 20; died September 26. These are all the cases in the third quarter.

The three cases in the fourth quarter of 1848, were Mexicans, belonging to the Spy Company, from General Scott's line of operations. This company was encamped near the barracks during the season. The men were idle, dissipated, continually drinking in town, and it is surprising that more of them were not seized with the fever. The three men, the subjects of these cases, were no exception to the above character. They were taken from the 1st to the 3d of October; died from the 3d to the 6th.

Perhaps there were cases, in both quarters, which might have been termed yellow fever, but they were not registered as such when the symptoms were light and the patient was labouring under some form of chronic disease. Every case of yellow fever on the hospital books is included.

Thus we have, in both 1847 and 1848, but 49 cases of yellow fever. In both years the barracks were filled with all classes of persons, and if yellow fever is contagious, why did not the disease spread universally? In 1848 there were only 11 cases, which were admitted into a hospital filled with patients, nurses, &c.; and it appears to me that a contagious disease ought, in such circumstances, to become general. No person attached to the hospital, in any capacity, had the disease in 1848, except the hospital attendant before mentioned, who had been on a drunken frolic in the city, unless we include Assistant Surgeon Newton. Such a disease cannot be contagious.

ART. VIII.—*Case of Fracture of the Clavicle and Humerus of the same Side.* By B. F. SCHNECK, M. D., of Lebanon, Pennsylvania.

A LITTLE daughter of Mr. Arnold, aged 5 years, was kicked, November 9, 1855, by a colt, upon the left arm in two places, as the marks indicated, upon the outside of the elbow just below the joint, and upon the arm immediately

below the shoulder. The latter being a direct blow, gave rise to a fracture of the humerus above the deltoid insertion, close to the joint; the former, being a counter blow, was communicated to the clavicle, and resulted in a fracture of that bone at its middle.

Here was an unfortunate state of things, truly! How I could treat the fracture of the clavicle was a difficult question. The arm could not be used as a lever, to lift and keep the shoulder up, and out, and back; and in the nature of the case it seemed impossible to devise a substitute that shall accomplish the same end. It seemed possible to heal only one of the fractures well; and the patient will suffer less inconvenience from a badly adapted clavicle than humerus. Wishing time for reflection upon this unusual complication, I applied a cold water dressing, and put the arm in a sling until the next day.

In the interval I consulted, but in vain, all the accessible writers, in regard to this novel case. The appliances of Desault, Fox, and others, were prepared for no such patients; and in that storehouse of broken bones of the indefatigable Hamilton, I found no sample to match this. Believing that I had met with an almost unique case, I finally adopted Dr. Fox's apparatus, with such additions as I conceived necessary. It will thus be seen that, notwithstanding the fracture of the humerus, I nevertheless obtained the leverage required for the coaptation of the fragments of the clavicle, by the contrivance now to be detailed.

The arm, having been enveloped in a roller, was dressed as in an ordinary fracture of this bone, with four binders' board splints; and on the external splint was secured, by a few turns of a roller, a slightly hollowed wooden splint, of the whole length of the humerus. With this unyielding outer splint it was intended to prevent that external angular displacement which would otherwise be sure to follow the bringing down of the arm over the axillary pad. But the splint, at this stage of the process, would not yet be capable of preventing this salient angularity; but by the help of a broad belt of webbing (a saddle-girth in this instance), it was most effectually prevented. This girth, cut of the proper length, and fitted with a buckle, was made to surround the thorax, passing under the axilla of the sound side, and directly *over* and *upon* the seat of the fracture.

Thus, a not too thick axillary pad having been applied, the arm, secured and fortified as above described, was gradually brought down alongside of the body; while, by an assistant, the girth was tightened with every successive degree of adduction of the arm, until finally, this lever, though broken, was made to elevate successfully and bear the weight of the severed and drooping shoulder. With a little adjustment, the fractured clavicle was coapted, and remained so. An outward angular deviation of the arm being thus prevented by the wooden splint, which kept the fragments in a line parallel with itself (and which was really the lever, and not the arm), but mainly and entirely by the belt, which made its counter-pressure immediately over the seat of

fracture, the indications were all fulfilled; and the case was committed to the care of Nature, who so well seconded the efforts of art as to have united the clavicle in two, and the humerus in four weeks, without any perceptible deformity or shortening of either bone.

ART. IX.—*Resection of the Femur, and Removal of the Trochanter Major for the formation of an Artificial Hip-joint.* By A. G. WALTER, Surgeon, Pittsburg, Pa.

SARAH McC., of Beaver Town, Beaver County, Pa., aged 22 years, of small stature, and delicate frame, with slender muscles, and highly nervous temperament, called on me in April last, wishing to have the left femur removed at the hip-joint, and gave the following history of her case: When five years old she fell, dislocating the hip-joint on the dorsum ilii, and, though unable to walk from the moment of the accident, yet her medical attendant treated her for rheumatism, the true nature of her case being overlooked. After six months' confinement to bed, suffering constant pain, which the anti-rheumatic treatment failed to relieve, she was allowed to go about on crutches, the limb being four inches shortened, the toes barely touching the ground. Some time after she exchanged the crutches for a high-heeled boot, and was thus enabled to walk with tolerable comfort. Two years ago she again fell on the same hip, and suffered severe pain in the joint. After some weeks' confinement to bed, the violence of the pain having subsided, she resumed her crutches; but on account of the contracted state of the muscles at the groin drawing the femur up to a right angle with the body, and the painfully dragging sensation at the hip-joint, locomotion was sickening and tiresome. A partial relief was obtained by supporting the limb with the left hand while taking exercise. From the strained position thus produced, together with the crouched posture assumed in bed to ease a tender joint, the chest, spinal column, and ossa ilii have become twisted and misshapen. There was continued pain in the whole limb even during rest; lying on the right side was alone practicable. Tired of her helpless condition, and worn out with suffering, exarticulation of the limb at the hip-joint appeared to her the only relief. Determined to submit to this, she sought admission into my hospital. On examination, I found a dislocation into the ischiatic notch, with anchylosis vera, and structural contraction of the adductor muscles, drawing the femur up to a right angle. Pressure upon the trochanter and rotary motion produced great pain from contact of the head of the femur with the ischiatic nerve. According to her statement, the configuration of the joint had become changed after the second fall, the pain shifted further back, luxation on the dorsum ilii having been converted to that into the ischiatic notch.

The distress and helplessness of the patient urged relief, but exarticulation of the femur in a person with a constitution so feeble and delicate, and such excitable nervous temperament, was not to be thought of; it was therefore proposed to establish an artificial joint at the trochanter by resection of the femur, which would straighten the limb, relieve the tension and dragging at the ischiatic notch, and enable her to walk on crutches with ease, the weight of the limb supported by its own muscles. To this a decided refusal was

given. Nothing short of complete removal of the limb would satisfy our patient. Such determination in a frail woman was unexpected. The dangers incident to the operation, her enfeebled condition, and the certainty of affording relief by the formation of an artificial joint being fully explained, her consent at last was reluctantly given, but only on condition that the limb should be removed, if success did not follow the conservative operation. On the 23d of April, 1857, the patient resting on her right side, and being fully under the influence of chloroform, Doctors McGrath, Henderson, and Lusk assisting, an incision six inches long was made over the trochanter major in the longitudinal axis of the limb down to the bone, the femur was freed by slight touches of the knife and a bent probe from the surrounding muscles immediately below the trochanter, and sawn through by a chain-saw passed underneath it, in a slightly oblique direction from below and inwards, up and outwards. This section not facilitating the extension of the limb, the resected lower portion being arrested by the prominence of the trochanter major, this bone was next cut off by the chain-saw in an oblique direction outwards. The limb was now readily extended, and after closing the wound by sutures, the limb was encased in a hollow leather splint, reaching from the ankle to above the crest of the ilium. The head of the femur was not interfered with. After the operation an opiate was administered.

The resection of the trochanter was essential both for the free extension of the limb and accommodation of the oblique surface of the shaft of the femur upon a similar one of the trochanter, and for the induction of natural plasma from the opened cells of the trochanter to form an artificial joint which would be capable of bearing the weight of the body. A transverse section of the femur could not have answered the purpose, as in extending the limb the trochanter, neck, and head, being firmly fixed by anchylosis, the shaft of the femur would have come in contact with the unbroken surface of the trochanter major, which, covered with its periosteum, could not have assisted to offer the materials for the formation of an artificial joint. Very little blood was lost during the operation; some febrile reaction followed; a part of the wound closed by first intention; in the remainder, healthy suppuration was in due time established. The condition of the patient would have been comfortable but for her inability to rest on the back, on account of lardosis of the lower part of the spine, its lateral distortion, and the altered level of the ossa ilii, that of the left side being much lower. Owing to this distorted condition of the trunk, the splint greatly incommoding the patient, resting on her right side had to be removed; extension was maintained from the ankle; opiates were required to allay the irritation which position and temper produced, as well as to support the system. During the first week the case progressed favourably, suppuration being moderate; but early on the morning of the eighth day a violent chill, of nearly an hour's duration, set in, followed by fever and profuse perspiration, with a painful swelling on the inside of the femur below the groin, and sunken features; deep-seated suppuration and pyemia were dreaded. The chills did not return, yet the condition of the patient remained critical. The tongue became dry, red on tip and edges, the throat dry and clammy, appetite failed, the pulse small and very quick, decubitus on sacrum, and over trochanter of right limb; an abscess formed on the inside of the femur near the groin, from whence matter was discharged by pressure in large quantities through the wound. The pus, hitherto healthy, became thin, greenish, and offensive; thirst very urgent; great irritability and apprehension of death; bowels constipated. Chlorate of potass in 10 grain doses every three hours was administered to relieve the congested mu-

cous membrane of the tongue and throat. Wine-whey and broths were freely given. An improvement gradually took place under this treatment. About three weeks after the operation the tongue had become moist again, and less red; the pulse less frequent and fuller; appetite had returned, and pus of a healthy character, and in less quantity, was discharged from the wound; bandaging from below up to the groin had closed the abscess; the wound was rapidly healing, and the limb was kept extended, and as much as possible everted. About a month after the operation, without any appreciable cause, there appeared a pulsating tumour in the abdomen, under the short ribs of the left side, near to the linea alba, simulating an aneurism of the abdominal aorta. In seven weeks the wound was almost closed, the appetite very good, bowels regular, tongue clean and moist, sleep natural, the pulsation in the abdominal tumour remaining unaltered, though rather less strong. The limb is movable at the artificial joint; is extended, and can be everted. Some days after, Miss McC. left for home with the prospect of the limb becoming useful. Several months later I saw her walking comfortably on crutches, relieved of a distressing deformity, and free from all pain and the dragging sensation at the anchylosed joint. The limb, about two inches shorter than the other, promises to become more useful in locomotion at a future day, when the newly formed artificial joint will have acquired more firmness to bear the weight of the body upon a high-heeled shoe without the aid of crutches.

The successful termination of this case is the more gratifying as it not only relieved Miss McC. of a painful and distressing deformity, but saved from mutilation, and probably from death, a feeble woman, who, worn out by sufferings and tired of life, had urged with strong determination and rare fortitude the performance of an operation which prudent surgeons will not rashly resort to. Nature, in her bounty, always ready to heal and repair injury, was not wanting in her efforts in this case to offer the materials for the new joint, and to perfect its formation, though, from the enfeebled condition of the patient, a very different result might have been anticipated.

January, 1858.

ART. X.—*Resection of the Lower Jaw for Necrosis caused by Inhalation of the Fumes of Phosphorus.* By WM. S. HALSEY, M. D., Prof. of Surgery in the Philadelphia College of Medicine.

JAMES McK., æt. about 40 years, is a match-manufacturer, and has followed the occupation steadily for fifteen years. In the factory in which he is engaged there are employed about thirty persons. McK.'s part of the business consisted in preparing and mixing the compound of phosphorus with which the matches are tipped, and in dipping the ends of the small pine sticks into this mixture.

In this process of preparing and dipping there is always emitted a large amount of phosphuretted fumes. He says that he is the only one that he has known to be affected with disease of the jaw in this establishment. His habits have been always steady, and his health perfect up to the winter of '57, when he began to suffer with a toothache in the right side of his lower jaw. This lasted for some time, and was followed soon by a hard lump upon the outside of the jaw. The pain continued to increase and the swelling to

enlarge until an abscess formed in the submaxillary region, and burst, and discharged a large quantity of purulent matter. Being alarmed at the progress of the disease, he applied in February, 1857, at the College clinique for relief. The right side of his face was much swollen, and the right submaxillary region especially was occupied by a large abscess which was discharging pus very freely. Upon introducing a probe into the discharging orifice, I found that it led directly to the jaw, which was deprived of its periosteum and in a necrosed condition. There was, however, no indication that exfoliation had taken place from any part of the jaw, but, on the contrary, the whole bone was firm and solid.

At this time the disease seemed to extend only from the right lower canine tooth to the angle of the same side of the jaw.

He was put upon a tonic plan of treatment, and although he was exceedingly anxious to have the diseased part removed, he was advised to wait for the present, as it was hoped that exfoliation would take place, sooner or later, and he be saved the necessity of undergoing a severe and dangerous operation. He was advised also to leave off his occupation.

He made his appearance from time to time at the clinique, but with little change, except that the swelling seemed to be slowly extending. He still continued to pursue his dangerous avocation, on account of being unable to procure any other, and because a large family was depending upon him for support. For a few months nothing was seen of him. Again in September he presented himself in a condition much worse than before. Up to this time he had been obliged to continue his occupation, for the want of any other, but now, from weakness and exhaustion, he has been forced to give it up. All the teeth upon the right side of the jaw have loosened and fallen out. Besides several openings upon the outside of the face, that were freely discharging pus, there were two or three inside of the mouth, from which there issued a large quantity also, and which led directly to the diseased bone. The disease seemed now to involve the whole of the right side of the lower jaw, without there being made the least attempt, seemingly, by the periosteum to replace the dead bone with a new casing of osseous deposit such as usually forms in ordinary cases of necrosis. This, however, is a peculiar characteristic of the disease which is especially mentioned by Mr. Stanley in his excellent treatise upon Diseases of the Bones, and by other writers also. Nor was there any disposition to exfoliate or to form a sequestrum, but on the contrary the whole jaw was as firm and solid as at the time when it was first examined. His constitution had now become seriously affected—as he was much emaciated and weakened by the great drain of pus that was constantly poured forth from the diseased parts. Quinia, iron, and a good rich diet were ordered, so as to put him in a condition as favourable as possible for the operation of resection of the bone.

Oct. 14. His present condition is about the same as before. He is pale, thin, and has an anxious look. He says his appetite is tolerably good, but he cannot eat solid food. The right side of his face is very much swollen; there are several fistulous passages under the jaw. In the mouth can be felt and easily seen the denuded jaw for an extent of two inches. His breath smells very offensively. The disease now extends from the right temporo-maxillary articulation to the left lower canine tooth.

The patient being placed upon the operating table, and etherized, in the presence of the class, and with the kind assistance of my colleague, Prof. Gobrecht, and Drs. Hazzard, Bradley and Pittinos, I proceeded to remove the diseased portion of the jaw. Commencing with an incision opposite the left lower canine

tooth, and at the base of the jaw, I carried it parallel with the base around the symphysis, to the angle of the right side, and met this with another incision extending downwards from the zygoma, half an inch in front of the tragus. The great tendency to free bleeding required the application of a large number of ligatures, although on account of their ready application, but little blood, comparatively, was lost. The incision was made down to the bone, which was found to be entirely deprived of its periosteum. But little difficulty was therefore encountered in raising the flaps, which required only a few touches of the knife to free the bone from its attachments. A space being now cleared at the junction of the left lower lateral incisor and canine tooth, a Hey's saw was used to make a groove, and the division was completed with Liston's straight bone forceps. On account of the extensive separation of the periosteum, it was found that the finger could be carried around the bone in its whole circumference, and to nearly the whole extent of the diseased portion. The attachments of the digastric, mylo-hyoid and genio muscles were all found to be loosened from the jaw, as also were the buccinator and the masseter muscles. The separated portion of the bone was now carried strongly outward for the purpose of further facilitating the operation of disarticulation, viz: the separation of the attachments of the pterygoid and the temporal muscles—for, on account of the great amount of swelling that existed in the ramus, and the pain that the patient suffered in this region, I felt convinced, previous to the undertaking of the operation, that it would be necessary to disarticulate; or, in other words, the disease had extended so far as to involve the whole of the side of the jaw; even the articulation itself was affected. This was evident from the great immobility of the joint, and the great pain that was caused by every attempt to produce motion in it.

Having then completed the division of the bone, I carried the divided end out strongly for the purpose above mentioned, when it broke loose from its attachments altogether—articular cartilage, ligaments, muscles and all—as cleanly and perfectly as a hickory-nut is turned out from its pericarp or outer shell. Thus, very unexpectedly, was completed the operation—the disarticulation having been accomplished spontaneously so far as division of the ligaments and the attachments of the condyle to the surrounding parts is concerned. The flaps were now brought together and retained by sutures and adhesive straps, water dressing applied, and the patient soon removed to his bed. At the end of four days the wound healed entirely by first intention, except at one point in the middle, where there was a considerable discharge of pus, which continued for five or six days longer, when it closed up completely. In two weeks from the time of operation, McK. was able to go out of the house, feeling perfectly well, except being weak, and with one of the best indications of returning health, a keen appetite.

The appearance of the diseased bone is as follows: Its general form is not altered; in size it is increased by a coating of osseous deposit, which is irregular in thickness, varying from one to three lines, in some places being much thicker than in others, with irregular eminences and depressions that cause it to be very rough and uneven. This deposit, except upon the coronoid process, the condyle, and the part near the line of division, has a dirty grayish appearance, and a porosity that much resembles the character and appearance of pumice-stone; besides, it has a harsh and roughened feel like that of sand-paper. Upon the coronoid process, condyle, and the front of the jaw at the symphysis, the deposit is much thicker—it being two lines or more in thickness, light in colour, smooth and more even, and has more the appearance of healthy bone. The coronoid process, instead of being one-eighth of an inch

in thickness, or thereabouts, at its base, and tapering off to a thin point as in the healthy bone, is thickened in this specimen to the extent of nearly half an inch at its base, while its apex is more than half an inch broad, and is nearly as thick as at its base. The articulating surface of the condyle does not seem to be much affected, but the neck and the part which constitutes the sulcus between it and the coronoid process are increased to four times their usual thickness. From the line of separation of the diseased portion from the healthy, to the extent of three-fourths of an inch there is a similar deposit. The interior of the bone, as seen from the divided end, has the appearance of being perfectly healthy. In the middle of the body of the jaw where, it will be remembered, the disease first appeared, this deposit has disappeared for nearly the extent of an inch in breadth and depth and the jaw itself has this pumice-stone appearance similar to that of the deposit. As the distance from this part increases, the deposit thickens until we reach that upon both extremities, which has more nearly the appearance of healthy bone. In other words, this deposit is the thickest where the disease has existed the shortest time, while the point where the disease first began is entirely denuded.

These facts, it seems to me, will give us an insight into the pathology of this disease, which differs so entirely from the other forms of necrosis. In the latter, whenever there is thrown out an osseous deposit, it is separate and distinct from the dead bone, and is in no way connected with it, except to act as a substitute for it when the necrosed portion shall have been removed; while in this form, produced by the inhalation of the fumes of phosphorus, the deposit is made directly upon, and is firmly adherent to the dead bone. This results from the periosteum being first affected, and the bone dies only after the deposit has been made upon it, while in the other forms the deposit is secondary to the death of the bone.

The pathology I believe to be the following: Water absorbs the phosphuretted fumes, which have been ascertained to be hypophosphoric acid and phosphuretted hydrogen, and so does the saliva. A more convincing proof of this is the fact mentioned by a French writer, that the operatives in match factories sometimes belch up gases from their stomachs, which in the dark are luminous, showing them to be phosphorescent. There certainly can be no more rational way of accounting for this phenomenon, than that the gases are absorbed by the saliva, and are taken into the stomach by being swallowed with the saliva, which acts as a vehicle for them; here the higher temperature of the stomach causes these gases to be evolved again, which mix with the other gases, and with them are expelled the stomach by eructation. Then, again, it is a well known fact that those persons are only affected with necrosis who have carious teeth, and it is said that persons may work amid phosphorus for years with impunity, so far as necrosis is concerned, if their teeth be only kept in a sound condition. The saliva having absorbed a certain quantity of these gases, lodges into or comes in contact with the exposed pulp of the tooth. Thus the pulp in consequence becomes irritated and inflamed. The inflammation is communicated to the periosteum of the alveolus. Thence it spreads by continuity of texture to the periosteum of the body of the jaw.

The same effects are now produced that follow inflammation of the periosteum ordinarily, viz., an osseous deposit is thrown out. This inflammation proceeds on until the death of the periosteum takes place. Now the bone and its deposit being deprived of their support, take on the process of decay. Hence the formation of abscesses, exfoliation, etc., as shown so distinctly in this specimen.

The death of the periosteum I infer from the fact that all writers agree upon the statement that no bony casing is thrown out to act as a substitute for the dead bone, which takes place in all other forms of necrosis; and that in this case, the part of the deposit where the disease had recently appeared seems but just stripped of its periosteum, viz., the coronoid process, condyle, and from that part near the symphysis; while the intervening portion is more or less disintegrated, showing that nutrition had ceased, and that the part was left to the process of decay.

This disease is an exceedingly rare one in this country, and although it is much more common in England and on the Continent, yet but little attention has been paid to its thorough investigation. On this account I have endeavoured to describe this case as accurately as possible, that a better knowledge of its nature and pathology may be obtained.

Art. XI.—*Case of Somnambulism.* By Robert M. Stribling, M. D., of Virginia.

A case of somnambulism (I so call it, in default of a better name) came under my notice about a year since, which presented some interesting and novel features; and with the hope that its publication may tend to throw light upon the physiology of the brain, but more particularly upon that condition of mental action known as mesmerism, I send it for insertion in the American Journal.

The subject of this affection was a man 32 years of age. He had spent the greater part of his life as clerk in a mercantile house, and during the spring of 1856, came to Markham Station, to live with a relative of his, who had established a store there. Here it was that he came under my notice. For many years he had been very dissipated, and had been treated several times for delirium tremens he told me.

During the course of the following fall, one of the young men who lived in the house with him, found that when suddenly awakened, he would commence to talk about his goods, imagining that he was making sales to a purchaser, and urging him to purchase some article. He found then, if he pretended to be a purchaser, Mr. A. would go on recommending his goods, would get out of bed, search for his yard stick, measure off any number of

yards called for, whether it was of silk, cloth, or calico, from a newspaper. That if he represented one of the young ladies who usually made purchases at the store, Mr. A. would treat him with all the deference he usually bestowed upon ladies, never for an instant seeming to doubt that he was dressed and waiting upon the lady in the store, but would talk about, laugh at, and joke over his goods, as he was known to do while selling goods to ladies. When in this state, one after another the young men were brought up and introduced to him, sometimes as ladies, and sometimes as gentlemen; always after he would call them by the name by which they were introduced, and behave in all respects towards them as if they were the real personages represented. Sometimes one would represent a rowdy, and curse and swear; Mr. A. would immediately seize him and attempt to put him out; often the scuffle was very severe and long-continued, and during the scuffle some persons standing by would pinch and slap him, to which he seemed very sensitive, but was not at all aroused from the delusion by it.

Whilst in that state he knew no one, not even his employer, who was often present; indeed, until introduced to any one, he would pass him as he would a pillow or post, not seeming to be aware that he was a human being, but when once introduced, he never after forgot the imaginary person, but would recognize and talk to him whenever he met him. He would, when told to go to the books and make off a long account, put on his overcoat and spurs, though he was in night-clothes and had on neither socks nor shoes, and start out of the room on a collecting expedition. When brought back and told the gentleman he sought was in the room, he would, in his usual bland manner, present the account and request payment, urging him after his custom to do so. He was once captain of a militia company, and if at any time one of the company struck up a march, he would hasten to put on his drill-coat, sash, and sword, though his legs and feet were bare, and commence to arrange those present in a line to go through a regular drill. In fine, tell him he was at a ball, he would immediately think he was there, and would act accordingly; so if you told him he was in Baltimore, Philadelphia, or New York. He could not be made to lose sight *of his own identity*, but upon everything else, his mind seemed to act upon any suggestion, no matter by whom made.

So long as he was acting under a delusion it was impossible to awaken him; numerous attempts were made by myself and others, but we could by no effort used succeed in the slightest degree, but if left alone for a few minutes he would return to his bed and close his eyes in sound sleep; then if aroused in a natural manner, he would awake perfectly rational, and without the slightest consciousness of what had just passed. Usually in the morning after he had been experimented upon, he would awake complaining a good deal of soreness and lassitude, but had not the slightest idea of its cause. At last his employer, at his urgent request, forbade any repetition of the experiment; all saw, too, that his health was growing more precarious, and abandoned it, for fear of doing him injury.

A short time after, his employer told me, while standing conversing with him on business, he suddenly commenced praising his goods and trying to sell to him, evidently falling into that state of somnambulism whilst awake, and mistaking him for a customer. It required a considerable effort, he said, to arouse him.

During the time we were experimenting upon him, he was drinking a good deal, but I never saw him intoxicated, and he attended to his business with great regularity. Soon after, however, he commenced to drink more, and his stomach becoming irritable, an attack of delirium tremens supervened. Opium, morphia, brandy, and the nervous stimulants were used, but to no avail; he sank daily, though the irritability of the stomach had been subdued, and he could retain whatever medicine was administered. He would lay in bed all day and night, imagining he was selling goods to some one, handing a dun to some one, or engaged in his usual avocations, but when spoken to he would answer any question rationally about his feelings or condition. He remained in this state for a week or ten days, gradually sinking during the whole time, until the night before Christmas, when I was sent for in haste to see him, the messenger at the same time telling me that he was dying. I hastened to him and found all pulse had left the wrist, his extremities cold, and his face wearing the Hippocratic expression. The only signs of life were gasps at short intervals, but they more resembled spasm of the diaphragm than any combined effort of the muscles to effect respiration. He was pronounced dying, and all sat awaiting the result, when from the much prolonged intervals between his gasps, I supposed the next would certainly be his last, he suddenly sprang into the middle of the floor, and it required the combined exertions of three of us to replace him in bed; then, upon feeling his wrist, pulse was very perceptible in it and seemed to increase in force. Some brandy was given, which he swallowed with but little difficulty, and that seemed to revive him still more. Soon after, he sank into the same state again. Again, when expecting death, he sprang up as before. He continued in this state for about a week, when on the morning before new year's he suddenly expired.

No post-mortem was made, circumstances prevented, but so far as the symptoms went they gave no evidence of any serious organic lesion of any of the viscera. The prominent symptoms in the case were great prostration, accompanied with delirium, but the delirium was never violent, and he never became comatose; on the contrary, up to Christmas eve, there was no time when he would not answer rationally any question put to him. He seemed to die from complete exhaustion of the nervous force, which for the week preceding his death seemed to be flickering like a candle that had burnt out.

Such was the history of the case, as far as I thought it important to note it down. His somnambulistic exhibitions and illness were witnessed by numbers of gentlemen and several physicians besides myself, attracted some from interest in the patient, and some from curiosity.

ART. XII.—*Exsection of the Entire Radius.* By J. M. CARNOCHAN, Professor of Surgery in the New York Medical College, Surgeon-in-Chief to the State Hospital (New York), etc. (With a wood-cut.)

THE following case of the exsection of the entire radius is without precedent in the annals of surgery, and having already, in 1854, exsected, for the first time, the entire ulna, I am justified in claiming priority for my exsections of the long bones of the arm in their contiguities.

Surgical compilations have heretofore given credit to Butts, of Virginia, for the operation of exsecting the entire radius, but it appears that the operation actually performed by that surgeon, was not on the radius, but on the ulna; of which only the lower two-thirds were removed. (*Philadelphia Journal of the Medical and Physical Sciences*, vol. x. p. 115, 1825.)

As regards the ulna, a case of the "entire removal" of that bone, and "all but a portion of the end of the radius," is attributed by Prof. Blackman (*Mott and Blackman's Velpeau*, vol. ii. p. 460, New York, 1856) to Dr. Compton, of New Orleans. On looking, however, at the report as transcribed, several valid and insurmountable objections present themselves to the reception of the case as one of exsection. The operation is said to have been performed by Dr. Compton, but is reported by a "Medical Student," in a very confused and contradictory style. As reported, the case was one of compound comminuted fracture of the radius and ulna, wherein, "the arm was in a sloughing state, and both radius and ulna were actually shattered to pieces, and protruding several inches out of the mass of muscles." The bones are described as having been disarticulated at the elbow, and yet the arm is said to have remained at a right angle to the humerus, and still further, "that it could be flexed and extended." (*Id.*, p. 460.) The utility of an exsection consists in the preservation of function, by avoiding amputation, and it seems to be a physiological impossibility, that after the removal of the shattered fragments of both bones of the forearm—with destroyed vitality—the function of the muscles of the forearm should be preserved. Besides, although it might be conceded that in a case of chronic necrosis of long standing, new bone might be thrown out, to take the place of the original, yet such an occurrence cannot be admitted as possible in a case of traumatic necrosis, resulting immediately from a severy injury.

Case.—Daniel Kane, aged twenty, a native of Ireland, a labourer, strumous aspect, tall stature, free from syphilitic taint, received an injury by a severe blow upon the upper part of the forearm. This was followed be severe inflammatory action of the whole of the forearm, as well as of the upper arm, nearly as high as the axilla. The pain was excessive, deep-seated—depriving the patient of sleep and appetite—and accompanied by high constitutional fever. Anodyne applications, such as medicated fomentations and cataplasms, with suitable internal remedies, had been used under medical advice

in the city. Punctures along the swelling had also been made. This treatment had been continued for about three months, without much relief from the pain or diminution of the extent or the hardness of the swelling along the forearm, when he entered, as a patient, the surgical department of the State Emigrants' Hospital, on the 15th of November, 1853.

At the time of his admission, his countenance bore the evidences of severe and prolonged suffering. He was emaciated, feeble, and labouring under irritative fever. The hand, forearm, and lower half of the upper arm, were much tumefied and discoloured. The tissues of the forearm were hard, dense, and unyielding. The arm was much increased in circumference.

The pain still continued with unabated severity. A cataplasm, medicated with infusion of poppy-heads, was ordered over the swollen parts. Internally, quinine, porter, good diet, and a quarter of a grain of muriat. morph. at bedtime, were prescribed.

The elbow-joint now became immovable; and towards the inner aspect of the joint a slight fluctuation could be perceived.

A bistoury was passed into the abscess, down to the bone, and a small quantity of pus was discharged. About two days after this, another abscess formed upon the inner side of the forearm; this was opened in the same manner, and a considerable quantity of pus was discharged. About the 8th of December, matter was perceived near the wrist, on the dorsal aspect of the arm; this also was evacuated. From these different openings pus continued to be discharged in considerable quantities; the arm became somewhat less tumefied; the pain ceased to be so severe; the febrile condition subsided; and the general health showed signs of amelioration. Along with the pus small pieces of diseased bone were discharged, and the probe could be passed easily along the fistulous sinuses into the interior of the radius. These sinuses were of considerable length, running through the tissues of the arm to the extent of several inches, and opening at a distance from the cavities or abscesses in the interior of the bone. From December, 1853, to March, 1854, the fistulous openings continued to discharge considerable quantities of matter; the patient, in the mean time, being kept under tonics and nourishing regimen. From March till the following October, the condition of the patient remained much the same; at intervals, small pieces of dead bone continued to be discharged along with the pus. The patient's health did not improve, and the arm remained discoloured, swollen, indurated, and useless. It now became evident that the disease was one which could not be cured or ameliorated by medical therapeutics. The disease was evidently, from the first, an ostitis, followed by its most aggravated consequences—enlargement, caries, abscess of the bone, &c.

From the general tumefaction of the forearm, it was difficult to decide positively as to the extent of the ostitis; whether both bones were involved, or whether it was exclusively confined to one. The sinuses led to the radius alone, and the inference from this fact was, that the disease was confined to

that bone. Supposing this to be the case, the question arose as to the propriety of amputating the arm above the elbow, or of exsecting the radius in its contiguities. The success which had followed the exsection of the entire ulna, as reported by me, induced me to select the latter alternative; and, accordingly, I performed the operation on the 31st of October, 1854.

Operation.—The patient was brought into the amphitheatre, and placed supine upon the operating table. Assistants were arranged so as to maintain firmly the trunk and lower extremities; others were placed to be in readiness to hand the instruments, and sponge the wound; chloroform was cautiously administered. The humero-cubital articulation, during the progress of the disease, had become immovable, and the forearm remained flexed at an obtuse angle with the humerus. One assistant held and supported the upper arm of the diseased limb, compressing, at the same time, the humeral artery. Another supported the hand and forearm, and maintained the latter in such position as to expose conveniently the radial aspect. An incision was now made with a strong scalpel, in the direction of the axis of the radius, commencing at a point immediately below the external condyle of the humerus, and extending downwards to a point opposite, and a little behind, the styloid process of the radius; next, two other incisions were made at the extremities of the first one, extending transversely backwards, about three-quarters of an inch. These incisions extended through the integuments, and subcutaneous adipo-cellular tissue and fascia, which were thickened and indurated. The middle third of the radius was now easily reached, and made bare on its outer aspect, by dividing the intermuscular tissue, behind the extensor carpi radialis brevior.

The tissues were then separated, at this place, from the posterior aspect of the bone; the edge of the knife being kept close upon the bone. The knife was now carried along the corresponding anterior surface of the bone, using at times the handle, and dividing the fibres of the supinator radii brevis, so as to lay bare the anterior surface of the bone, as far as the attachment of the interosseous ligament, along its cubital border. The outer surface of the radius was further laid bare, by carrying the dissection upwards, between the extensor carpi radialis brevior, and the extensor communis digitorum. The muscular tissue, surrounding the radius at its upper part, was then detached from the different aspects of the bone, as far as the insertion of the interosseous ligament. Attention was now directed to the lower part of the radius; and here the necessity of preserving the different tendons, passing over the posterior part of the radius to the hand, required the greatest caution. The knife was carried behind the fleshy mass, composing the origins of the extensor ossis metacarpi pollicis, and the extensores primi et secundi internodii pollicis, detaching it from the radius, and the posterior part of the interosseous ligament. The tendons of these muscles were next insulated, and carefully dissected from their attachments, and from the groove beside the styloid process of the radius, along which they pass. The tendons of the extensor

carpi radialis longior and brevior were now insulated, and detached from the groove along which they pass. The tendon of the extensor indicis was next detached. The extensor communis digitorum, with its tendons, and the extensor minimi digiti were also liberated, and dissected from their respective grooves on the lower part of the bone; and the knife was then made to separate the supinator radii longus from its attachment.

At this stage of the dissection, it was deemed expedient to divide the bone at its central part, in order to facilitate the detachment of its articular extremities. An attempt was made to pass a large curved needle, for the purpose of introducing the chain-saw through the interosseous space; but this was found impossible, owing to the increased diameter of the radius, and its consequent approximation to the ulna. The various soft parts were now held apart from the bone, and protected by means of compresses; the bone was then nicked, and divided by a metacarpal saw through three-fourths of its diameter, the rest of the osseous section being completed by smart blows of the hammer on a chisel. The dissection was now continued, so as to remove the upper fragment, which was found to be immovable at the articulation with the humerus. The upper fragment was held by the forefinger and thumb of the left hand, and a blunt-pointed knife, curved flatwise, was slipped under the bone, so as to separate the interosseous ligament from its attachment. This ligament was next carefully detached upwards, as far as the insertion of the tendon of the biceps muscle. The knife was then carried upon the outer portion of the annular ligament, and this, with the external lateral ligament, was divided. It was now perceived that bony union had taken place between the inner half of the upper surface of the head of the radius, and the lower part of the humerus; with a small chisel this union was easily destroyed. It now remained to detach the insertion of the biceps muscle, which was somewhat difficult, because the increased size of the bone made it encroach upon the track of the artery.

Keeping the edge of the knife close upon the tubercle of the radius, the detachment was effected. It next remained to detach the lower fragment. By means of the blunt-curved knife, the interosseous ligament, and the pronator radii quadratus were detached from the bone. The different tendons running over the outer side of the radio-carpal articulation were now held aside by blunt hooks, and the radial artery was felt for, and also held aside. The bistoury was then carefully passed along, and under the styloid process, so as to divide the lateral ligament, and open the joint at the external part. The other tendons crossing the posterior aspect of the joint were also pulled to one side, so as to admit of the division of the posterior radio-carpal ligament. The articulation of the lower part of the ulna with the radius, was now opened upon its posterior aspect. The bone was next elevated and rotated, so as to permit the entrance of the knife at the external part of the joint, and the anterior radio-carpal ligament was divided. A few touches with the point of the bistoury completed the exsection.

The pressure on the artery was now removed, and the wound cleansed of blood. The hemorrhage, which was chiefly venous, became trifling. It was necessary to secure only the interosseous artery, and two small muscular branches.

During the operation, the radial, ulnar, and brachial arteries, escaped injury, as did also the median and radial nerves. The various tendons which have already been mentioned, were also insulated, and separated from their attachments, without in any case being divided.

Progress of Union.—After the oozing of blood had ceased, the different tendons were placed, as nearly as possible, *in sitû*, and the edges of the wound were maintained together by points of interrupted suture: strips of adhesive plaster, a layer of perforated lint spread with balsam Peru cerate, scraped lint, compresses, with a retentive bandage, formed the dressing. The forearm and the hand, in a state of pronation, were then laid upon a well-padded splint, and secured in that position by means of a circular bandage.

At night, after the operation, an anodyne draught was given. Next day, November 1st, slight constitutional fever; pulse rose to 105. Patient restless, and suffering considerable pain; ordered an anodyne at bedtime.

Nov. 2. Had slept better, pain less severe, pulse 100. First dressings removed in the afternoon. Union of the lower portion of the wound by first intention for about two inches above the wrist. An anodyne at bedtime.

3*d.* Traumatic fever subsiding; wound dressed; suppuration profuse. Some sutures were removed; ordered sulph. quiniæ, two grains every two hours; muriat. morphia at bedtime.

During the following three weeks, with but little modification of the treatment, the patient continued to improve: the suppuration became less; the process of healing advanced favourably; and the lips of the wound were nearly united in its whole length. There remained two sinuses leading into the tissues of the arm; one opening near the elbow joint, another about the middle of the forearm.

22*d.* Iodide of potassium and cod-liver oil were substituted for the quinine.

During the following four weeks, the patient's general condition went on improving; he gained flesh; his countenance assumed the aspect of health; exercise in the hospital grounds allowed; the arm being kept in a sling.

1855. *January* 2. The sinuses had entirely healed, and the whole line of the wound cicatrized. The limb was still carefully and lightly bandaged, and the splint used, in order to give support to the hand, while the tissues along the radial aspect of the forearm were gaining solidity.

10*th.* Removed the splint, substituting the simple bandage. The patient allowed to use his hand and arm; general health restored.

Eleven weeks after the operation the patient was discharged cured.

Functions of the Arm, and its Appearance.—The patient returned afterwards, and was again admitted into the hospital for an internal malady, from which he soon recovered. He had regained, however, the use of his hand

and arm so much, that he was enabled to perform the duties of orderly in one of the surgical wards.

The radial aspect of the forearm presents the long cicatrix of the wound, and a depression exists along the original site of the radius. From the rigidity of the elbow joint, the forearm remains flexed at a convenient angle with the upper arm. The deformity of the limb is not so great as might be supposed would occur from the removal of the chief support to the hand.

The axis of the hand is not exactly in its normal direction, the hand being drawn slightly towards the radial side of the arm; and the styloid process of the ulna, from this circumstance, seems to project more than is natural. The functions of the hand are entirely preserved; as a matter of course, the power is not so great as it was, but, with this exception, prehension is unimpaired. He can carry a bucket full of water without difficulty, and can also write with ease.

The functions of the fingers are not diminished, and the sense of touch is as good as it was before the operation. The rigidity at the elbow joint is the result of the antecedent disease, and not of inflammatory action following the exsection. The functions of the wrist-joint, where the most trouble was to be anticipated, is but little interfered with. Flexion and extension are performed without difficulty; the hand can be turned prone or supine, and can also be adducted and abducted. The large arteries and nerves of the forearm were not injured during the exsection; and the muscular tissue, with the exception of those portions which had to be detached from the surface of the radius itself, was left intact by the knife. The various muscles which passed over the posterior and inferior part of the radius now, serve to effect extension of the wrist and of the fingers; such as the extensores carpi radialis, the extensor communis digitorum, the extensor minimi digiti, and the extensor carpi ulnaris.

In the new position which the hand has assumed, the extensores carpi radialis, with the extensor ossis metacarpi pollicis, and the extensor primi et secundi internodii pollicis, with the extensor indicis, aid in effecting abduction.

Adduction is effected by the extensor carpi ulnaris and the flexor carpi ulnaris; while flexion is performed by the flexor carpi radialis, the palmaris longus, the flexor carpi ulnaris, the flexor sublimis, the flexor profundus, and the flexor longus pollicis.

Pathological Condition of the Bone.—The diseased radius is represented by the accompanying wood-cut. Fig. 1 represents the posterior aspect of the upper half. Fig. 2, the lower or carpal half—the posterior surface.

The entire bone presents the characteristic appearances which result from prolonged and severe inflammation of the osseous tissue; the bone is expanded or enlarged in its whole extent; the measurement around, a little below the middle, is 4¾ inches, and the weight is seven and a half ounces; the weight of a healthy radius, recently removed, being only from two ounces and one drachm to two ounces and two drachms.

Fig. 1.

Fig. 2.

The upper third of the bone, when examined soon after its removal, presented on its anterior aspect the following appearances: the periosteum was partially loosened from its attachments and thickened, resembling softened cartilage rather than fibrous membrane. Numerous foramina were seen—enlarged, well defined, and hemmed round by mammillated eminences. The general surface of this portion, anteriorly, was rendered very irregular by the addition of new osseous matter, thrown out by the periosteum, and forming sulci, crests, and bridges of bone. The posterior aspect of the upper third was not so much altered; its surface, however, was rough and irregular.

The middle third was enlarged to a greater extent than any other part of the bone; being about five inches in circumference. It presented a surface more uniformly irregular than the upper third. The periosteum was mainly

adherent, and but little thickened. Beneath it the bone was found everywhere honey-combed by large foramina; the osseous matter around each foramen blending with that around the others in its neighbourhood, and giving rise to minute fissures and irregularities, running in every direction.

At different points cloacæ opened on the surface, and communicated with a central cylindrical canal, containing an undetached and spongy sequestrum. This canal was filled with pus, and formed an abscess in the interior of the bone. The section of this part of the bone and the surface show that new bone was being deposited from the periosteum and its processes, and that absorption was going on internally.

The lower third presented fewer marks of disease. It was, however, considerably enlarged; several enlarged foramina were seen on the anterior surface; while, on the posterior surface, a cloaca, extending into a purulent cavity, in the interior of the bone, and some irregularities on the surface, constituted the changes to be noted.

45 La Fayette Place, New York, *March* 1858.

Art. XIII.—*Account of a Monster of the Genus Peracephalus.* By Walter F. Atlee, M. D. (Read before the Biological Society of Philadelphia, March 1, 1858.)

This monster was the product of a double gestation, the mother being delivered at seven months. The child born first lived fifty-five hours; it was a female, and perfect with the exception of one club-foot; this monster came away about twenty minutes afterwards. One placenta was common to both. The mother was a healthy woman who had previously borne three children, in as many confinements. In the first two pregnancies the child was female, and born at seven months; in the third the child was male, and born at eight months and a half. The woman had received, so far as is known, no fall or fright in the course of her pregnancy.

The monster has no head or upper extremities. The trunk and lower extremities are of a size corresponding to those of a well-formed fœtus of seven months. A want of perfect symmetry, however, is very manifest, in the two halves of the trunk, which is remarkable for a number of elevations, with depressions between them. These elevations are due to the accumulation of a great quantity of cellular tissue. This sort of lumpy condition exists likewise in the lower limbs, which present, in addition, several other imperfections. The feet are turned inwards, and they possess but four toes, two of which, the smallest, on one foot, are not separated. The external organs of generation are those of the female; the anus exists.

Upon the front of the trunk, between the umbilicus and its upper extremity, is something having the appearance of a small empty bag or bladder, attached

by a rather narrow pedicle. Both above and below this bag is a small tuft of hair. Towards the sides of the thorax, in the places usually occupied by the nipples, are small round orifices.

For the sake of preserving the original appearance of this monster, which was deposited in the collection of the Biological Society of this city, the examination made of its internal structure was very limited; it was confined, in fact, to an examination of the spinal column. The sacrum was found to have its concavity looking backwards; the lumbar vertebræ are five in number, and the dorsal twelve; at the commencement of the cervical region the spine is bent forwards and downwards, and it leads, by a chain of small rudimentary bones, imperfectly formed but evident rudiments of vertebræ and a cranium, to the empty bag, mentioned as existing on the front of the thorax. The existence of a few hairs in this place, rudiments of the hairy scalp, had already foretold, what a slight dissertion has sufficed to prove, as to the termination of the vertebral column.

According to the usually adopted classification of Geoffroy St. Hilaire, in his *Traité de Teratologie*, this monster is one of the genus *peracephalus*, the Greek περα, *beyond* or *further than*, being prefixed to acephalus, to mark a still greater deformity, the thoracic members being absent as well as the head.

St. Hilaire states that about fifty cases of this form of monstrosity have been recorded, and that from their examination it appears that, generally—they are not born of women in labor for the first time; delivery takes place from the sixth to the eighth month; the gestation is double; the placenta is common to both the children; the other child is well-formed, the sex is the same; and the acephalic child is almost never born first. All these circumstances, said by St. Hilaire to generally occur, have been noticed in this instance as already stated; the only exception being that the first child had a club-foot, instead of being well-formed.

It is interesting to notice that, in animals, the only examples of this monstrosity have been in the sheep and the deer, ruminants both of them, and like man, generally uniparous. In all these examples—they are four in number—gestation was double.

As, for the sake of preserving the specimen, the dissection of this monster was not carried far, the principal modifications of the internal organization, found in these cases, will be given as they are stated by St. Hilaire. As in every other point his statements correspond to what occurred and was found in this case, there is no reason to doubt that they would also correspond to what would be found were the dissection completed.

The diaphragm is wanting, or, at most, the separation of the thorax from the abdomen is membranous. It will be recollected that a muscular separation of the thorax from the abdomen is only observed in mammiferous animals.

In the thorax the lungs are absent, or are in a completely rudimentary condition. Even their presence as rudimentary is very doubtful.

The heart is most usually absent. It has been said to be constantly absent,

but it is possible to prove the existence of an imperfect heart in some cases of acephalous children. This question of the existence of a heart is very interesting, for, according to Aristotle, who has reigned over science almost to the present day, it is the organ first formed.

What is true of the heart is true also of the liver, the spleen, and the pancreas. Their absence is the usual, their existence the exceptional case.

The alimentary canal constantly exists, but incomplete, and offering evident traces of imperfect development. The large intestine is always found; there is often, though not always, a considerable portion of small intestine; a small stomach is sometimes found, and even, in one case, the inferior extremity of the œsophagus.

The urinary organs, after the intestinal canal, are the most constant parts. The organs of generation are as constant as those of urination, but they are very often imperfect, or even rudimentary.

The skeleton is always very incomplete, as are also the nervous, the muscular, and the vascular systems.

It will be noticed that the order in which the different organs of acephali disappear is almost exactly the order in which, in the series of normal beings, the organization is seen to be simplified, and to be successively degraded. Thus, in animals, the heart and the lungs disappear before the stomach, and this in its turn disappears before the genital organs, and above all, before the intestine, which is the most constant of all organs. Should this coincidence, between the degradation of the organism in the animal series, and the disappearance of so many organs in the acephali, be considered as only fortuitous, or does it depend upon necessary causes? Almost all departures from the normal condition can be explained by *arrests of development*, for they realize the normal conditions of the first ages of the life of the embryo. Now the primitive conditions of the organization of the embryo, are also the conditions of the organization of beings of the inferior degrees of the animal scale. Hence the very natural explanation of this remarkable similarity existing between the modifications of acephali and those in the inferior classes of animals.

From the fact that the transitory or embryonic condition of a superior animal resembles, in a more or less striking manner, the permanent condition of another animal less elevated in the series, some authors have thought that every superior animal, before reaching its definite form, passes through the series of forms proper to the animals that are inferior to him, and that the diversity of species results from a series of *arrests*, effected at different degrees of the embryonic evolution. Serres (*Précis d'Anat. Transcendante Appliquée à la Physiologie*, Paris, 1842) lays it down as a principle that "human organogeny is a transitory comparative anatomy, as in its turn comparative anatomy is the fixed and permanent condition of the organogeny of man." This we do not believe to be true; every animal bears in itself, from its origin, the principle of its specific individuality, and the development of its

organism, conformably to the general tracing of the plan of structure proper to its species, is always for it a condition of existence. The term arrest of development, is not meant to express an embryonic condition, permanent for some animals, transitory for others, but a form which has remained quite similar to that which the embryos of these animals, and of others derived from the same fundamental type, possess at a certain period of their existence.

What Milne Edwards calls the "economy of means," by which the rich diversity of products, to be found in the animal creation, has been brought about, is most wonderful. One of the most powerful causes of this rich diversity, is the inequality in the degree of perfection reached by animals. All animals are equally perfect in their kind, as Cuvier says: they are perfectly fitted for the part they are to play, but this part is far from having always the same extent and importance.

It is only in the past few years that the true point of view under which the physiological study of monstrosities should be embraced has been rightly understood. All the facts and all the laws of teratology are only the consequences of embryonic laws and facts; and embryogeny, as the science is now understood, was only begun some fifty years ago. Embryogeny has for its fundamental basis, this principle, that the organs do not exist entirely formed, from the beginning, but, on the contrary, are formed at epochs, that vary for each of them. Necessarily very small and very simple when first formed, these organs increase in size and undergo developments.

Universally, until the 17th century, all monsters were destroyed. It was held to be a bold novelty when Riolan, one of the most distinguished men of his time, declared that six-fingered children might be allowed to live. Riolan taught, moreover, that monsters, half man and half animals, should rather be killed; as to monsters, made in the likeness of the devil, if allowed to live, they must be constantly shut up and kept concealed.[1] From the superstitions of that time, in the course of a century and a half, the science of monstrosities has risen to the highest considerations of natural philosophy.

ART. XIV.—*Spontaneous Rupture of the Eye.* By ANDREW FLEMING, M. D., late Resident Physician to the Pennsylvania Hospital.

REUBEN POND, aged 50, seaman, a native of New Jersey, was admitted into the Pennsylvania Hospital Sept. 22, 1856.

Two years ago he had some disease of his right eye, which lasted for a month, when he lost the use of it entirely. Since that time it gave him no trouble or uneasiness until two days before his accident, when he suffered from a severe, acute and throbbing pain in it, but without increase of size.

[1] Riolan was Dean of the Faculty of Medicine, in Paris; he died in 1605.

He has been temperate, has, with the exception of the above, always been in good health, and has received no injury which could have caused his present condition. He had been engaged, during the day, in loading a sloop with manure; which service required him to stoop a great deal, had quitted his work, and while standing on the wharf conversing with a comrade, he suddenly felt a pain as of a knife cutting across his eye, when a gush of blood started from the sightless globe.

On admission he was tossing about in great agony, perfectly sensible, with a weak, rapid pulse and cold skin. On the outside of the lids was a clot, about the size of the eye, resting upon the cheek. When this was removed, a rent was found extending clear across the cornea and a copious and steady stream of arterial blood welling up through it. After cleansing the laceration carefully, no protrusion of the iris or crystalline lens could be perceived, and a probe introduced gave no indication of the presence of the latter. The eyeball was of the same size as the opposite one, and with the conjunctiva and lids presented a healthy appearance. The examination caused such exquisite pain, that a more minute inspection would have been injurious, and the presence of the blood behind the torn cornea rendered it difficult to recognize any alteration in the tissue. It is to be regretted, as in many cases of interest, that the knowledge of the antecedents had to be obtained from the patient alone.

A full anodyne was immediately given, and a piece of lint, dipped in tinct. ferri chlor., inserted in the eyeball through the opening, and retained by an adhesive strip. He was then put to bed, sol. morph. s. given in sufficient doses to quiet him, and, when reaction had been fully established, cold was applied.

Sept. 23. No hemorrhage has taken place since the introduction of the lint; there is some swelling of the face and œdema of the eyelids; he has slept a little and feels much better.

The case now progressed favourably; suppuration took place, followed by healthy granulation, the wound in the cornea healed, the eyeball was slightly diminished in size, and he was discharged cured Oct. 31, 1856.

The cases are numerous and the circumstances very varied where spontaneous effusion of blood, without rupture of the cornea, takes place in the eyeball, while those in which hemorrhage, with rupture of the cornea, does take place or would be likely to do so, are confined to malignant disease of the orbit, glaucoma (Mackenzie, *Practical Treatise*, and Desmarres, *Mal. des Yeux*), and aneurism. There being no reason, from the healthy appearance of the eye, and the absence of the lens, for supposing the existence of the first two, I shall dismiss them.

Aneurism is here found, as in other parts of the body, of two kinds.

Traumatic aneurism of the ophthalmic artery is a very rare disease, and so far as my inquiry goes, but three cases have been reported. Two of these are reported in the *Med. Chir. Transactions*, vol. xxii., by Geo. Busk, Esq., one occurring in his and the other in the practice of Mr Scott, surgeon to

London Hospital. The third is that of Mr. T. B. Curling in (*op. cit.*) vol. xxxvii. A very remarkable case of anastomotic aneurism of the orbit, resulting from injury, was treated by M. Velpeau, at la Charité (*Mal. des Yeux de* Mackenzie, *trad. avec notes par* S. Laugier et G. Richelot). In the above cases the injuries received were of a violent kind, and followed by great enlargement of the eye with protrusion, and all the characteristics of aneurism. In each case the common carotid was ligated, and, with the exception of the last in which the life was saved, were successful, not only regarding the condition of the patient, but in restoring the use of the eye.

Of spontaneous aneurism, the number of cases is greater, and I shall enumerate but a portion collected. Mr. Guthrie (*Lec. on Oper. Surgery*) has given a description of a true aneurism of this class, of both ophthalmic arteries as verified by *post-mortem* examination. Others, whether of true or anastomotic character, have been given by the following authors, viz., Mr. Travers (*Med. Chir. Trans.*, vol. ii.), Mr. Dalrymple (*op. cit.*, vol. vi.), M. Jobert (*Mém. de l'Acad. Roy. de Médecine*, tome ix.), Mr. H. Haynes Walton (*Lancet*, 1852, vol. i.), M. Petrequin (*Comp. Rend. de l'Acad. des Sciences*, tome xxi.), and M. Bourguet (*Archives Générales*, 1856). Of these cases, in the first four the common carotid was ligated, and a perfect cure (with sight restored) effected; in the fifth, the common carotid was tied, but the pulsation soon returned, and one month after the galvano-puncturation was tried but without success—the patient died in a short time, and the last was cured by injection of perchloride of iron.

In all cases of aneurism of the orbit, whether of a traumatic or spontaneous character, there is considerable time required for the development of the disease, and there is no case in which, besides the symptoms peculiar to aneurism, there is not great enlargement and protrusion of the eye. From this, it would appear that the case of which I have given the details was not one of aneurism.

To explain the pathology of this lesion, it is necessary to suppose a varicose condition of the vessels within the eye, increased by the occupation at the time (Beer and Walton), with perhaps disease of their coats as described by Ignaz Meyr (*Canstatt's Jahresbericht*, 1851), and at the same time a ramollissement of the cornea (Mirault, Rosas and Stoeber) which offered no resistance to the tendency of the vessels to rupture.

Art. XV.—*Experiments with Bibron's Antidote to the Poison of the Rattlesnake.* By Louis de Vesey, Member of the Academy of Natural Sciences of Philadelphia.

In the January number of the *American Journal of the Medical Sciences*, Dr. William A. Hammond, U. S. Army, gives the details of several cases of

infection from rattlesnake poison in which Bibron's antidote was employed. The nature of the antidote and its history are given, and need not therefore be dwelt upon here.

The present paper, containing also the results of cases of poisoning from rattlesnake bite, in which this remedy was used, is contributed with the hope that a knowledge of its influence in obviating the ill effects which so generally follow the wounds made by this venomous reptile may be more extensively known throughout the country.

Whilst at Contra Costa, on my way to Fort Tejon, in California, a young boy was bitten by a rattlesnake. In a short time the wounded limb (the leg) was much swollen, and there was a good deal of pain in the part; his parents, refusing my services, sent for a physician. His remedies, however, were unavailing; the boy was completely prostrated, and the bitten limb and even the body were much swollen. The next morning, all hopes of recovery having been abandoned, I was requested to prescribe for him. I immediately gave him ten drops of the bromine mixture, diluted with a little alcohol and water, and four hours afterwards repeated the dose. Very soon after the first dose amendment commenced, and progressed rapidly after the second dose. Towards evening all swelling, pain, &c., had disappeared, and the next morning the boy was as well as if nothing had happened.

In the vicinity of this fort rattlesnakes are found of very large size, and desirous of further testing the powers of the antidote, I procured three dogs and subjected them to a series of experiments with it after causing them to be bitten by the snakes.

The first dog (a small but powerful animal) was bitten twice, in a very short period, in the throat; the characteristic symptoms which usually follow infection of this kind soon supervened. I gave him ten drops of the mixture, and he almost immediately began to improve. The next morning he was well, but the swelling did not entirely disappear for two days.

The other two dogs yielded similar results, one dose of the antidote was always sufficient, except with the *crotalus lucifer*, which inflicted wounds of more than ordinary severity. Two or three doses, and even some alcohol, were generally necessary in bites from this species.

In all, I performed seventeen experiments on the three dogs, with seventeen different serpents, and invariably with a successful result. In the course of the investigations I found that dogs which had taken several doses of the bromine mixture, were for some time afterwards incapable of being infected by the poison of the rattlesnake.

I am sure experience will demonstrate the bromine mixture to be an effectual antidote to wounds from the rattlesnake—the most poisonous member of our fauna.

Fort Tejon, California.

TRANSACTIONS OF SOCIETIES.

ART. XVI.—*Summary of the Transactions of the College of Physicians of Philadelphia.*

1857, *Aug.* 5. *Injurious Effect upon the Eye of the Light from the Fish-tail Burner.*—Dr. RAND desired to call the attention of the Fellows to the injurious effect upon the eye of the unsteady light produced by a common form of gas burner.

The burner alluded to is known as the "fish-tail, or union jet," and is almost the only one now introduced by the gas-fitters. The gas issues at its tip in two opposing currents, which impinging nearly at right angles, cause the gas to spread in a sheet of flame, the plane of which is at right angles to that joining the orifices of the jets. When the pressure is increased beyond a certain point, the flame rises in an irregular column, accompanied by a hissing or humming noise; this is termed "blowing."

It must be manifest from an inspection of the structure of the burner, that the least inequality in the amount of flow through the two tubes leading to the jets will produce an unsteadiness of flame, and this unequal flow will be most marked when the pressure is below the maximum for light, without amounting to that sufficient to produce "blowing." To avoid this blowing, the gas is generally kept turned down, below this maximum point, and it is very rare to see a steady light from one of these burners.

The effect of this flickering is very annoying to one unused to it, causing pain in the eyeball, confusion of vision, headache, and other symptoms of fatigue of the optic nerve. In many cases the eye, after a time, becomes accustomed to it, but at its own cost; in others this tolerance does not occur, and Dr. Rand was acquainted with several persons who could never employ this light, but used candles or the Argand burner when reading or writing.

The almost universal adoption of the "fish-tail" burner was due to its convenience and great relative economy, giving as it does about twenty per cent. more light for the same consumption, when compared with the bats-wing burner, but being equalled in this respect by the best forms of Argand. It has also the advantage of giving warning by "blowing" when burning gas wastefully, which the bats-wing does not.

Dr. Rand was not prepared to condemn entirely the use of a contrivance

so convenient and economical; but merely suggested the propriety of substituting for it, for purposes of reading, writing, sewing, etc., the steady flame produced by the bats-wing or the Argand burner. The former, from the shape of its flame, is not well adapted for a shade; the only objections to the latter are its requiring the use of a glass chimney and its liability under increased pressure to smoke. He had, however, used an Argand burner for years, and found it to give very little trouble, and was satisfied that no one who would compare the effects of the two for a single hour would ever exhaust his eyes by the flickering "fish-tail," when the steady sunlike blaze of the Argand was within his reach.

Oct. 7. *Fatal Enlargement of the Thymus Gland with Subjacent Tumour.* —Dr. HENRY HARTSHORNE exhibited a specimen, obtained from a patient of Dr. W. H. Hazzard, in which disease of the thymus gland appeared to be the immediate cause of death.

The child was five months old when it died. It had always appeared to be healthy and well developed; and presented no symptoms of disease to attract attention, up to the moment of death. It was suckled by its mother at 2 o'clock of the morning of its decease, when it went to sleep as usual. At about 7 A. M., it was found dead, lying on its back, with blood about the nostrils, and the jugular veins distended. Examination of the body displayed no peculiarity except the morbid alteration of the gland, and the results of its pressure upon other parts. The heart was forced down close upon the diaphragm. The vena cava descendens contained an unusual quantity of blood. The thymus itself was very much enlarged; and, below the proper gland, but connected with it, and inclosed in a continuous enveloping membrane, was a mass whose appearance and consistence resembled those of fatty structure. At the time when first seen by Dr. Hartshorne, it had so shrunk and altered under the influence of alcohol, that no minute or microscopic inspection of its characters was practicable. Its dimensions, however, even at that period, were as follows: 3 inches in perpendicular length, 2 inches in width transversely, and $\frac{7}{8}$ of an inch in antero-posterior thickness; being fully twice the volume of the heart, and about half the size of the right lung. The thymus at that age (five months) averages commonly about $1\frac{1}{4}$ inch in length by $\frac{1}{4}$ of an inch transversely. In Sir Astley Cooper's monograph on the thymus, it is described as weighing about half an ounce, according to Meckel, at nine months, and increasing up to the end of the first year; after which it decreases.

Very little information, however, is to be found in systematic treatises, or elsewhere, in regard to the pathology of the thymus gland. A quite similar case to the above was narrated, with a drawing, by Herbert Browne Beck, in *Guy's Hospital Reports*, 1st series, vol. vi. p. 188. The principal difference, in Beck's case, was, that the fatal result, occurring in the fourth month of

the child's age, was preceded for a length of time by paroxysmal attacks of dyspnœa, cough, &c.; which were quite absent in the case of Dr. Hazzard's patient.

Rokitansky simply expresses a doubt whether the "thymic asthma," described by Drs. Kopp, Hirsch, Montgomery, and others, as occurring in delicate children, is connected with enlargement of the thymus. It is asserted by Handfield Jones and Sieveking, that it does not necessarily depend upon this, as the asthmatic attacks have been shown to occur, in some instances, with an unnaturally small thymus, and to be absent in other cases where the gland was enlarged. Simon mentions a case in which suffocation was occasioned by the pressure of a tumour apparently of a sarcomato-cystic character, in the situation of the thymus; and Sir Astley Cooper met with a case of encephaloid growth in this part.[1] Dr. Gross states, in his *Pathol. Anatomy*, that no well authenticated case of steatomatous degeneration of the thymus is upon record. The case under consideration might be considered as one rather of fatty *deposit*, or hypertrophy, than of degeneration. There is some interest in remembering, in connection with it, the fact stated by Simon, in his Essay on the Thymus, that this gland is annually converted, in the hybernatory rodentia (as the marmot), into a large *fatty mass;* and that in the ophidia, especially those which are capable of hybernation, an accessory *fat body* is associated with the gland.

There was nothing tuberculous in the organization of the child from which the preparation exhibited was obtained. The main singularity of this case—beyond the comparative rarity of recognized affections of the thymus—was the absence of premonitory symptoms. Death seemed to be accounted for by the pressure of the tumour on the descending vena cava and right side of the heart, so as to obstruct the circulation to a fatal degree; but why this pressure should not have occurred before, to such an extent as to produce symptoms of congestion of the brain or lungs, is difficult to explain.

Dr. CONDIE had some doubts whether the symptoms were not due to an undeveloped state of the lungs rather than to enlargement of the thymus. Nearly all of the late writers, especially German, have concluded that Kopp's asthma is not produced by enlargement of the thymus gland. There are three or four cases in the German journals in which tumours below the thymus have produced disturbance of the circulation and respiration, and finally death; but these have nothing to do with the size of the thymus. In this case I cannot believe that so soft a body could have pressed down the heart or interfered with the circulation of the bloodvessels of the neck. Still the physiology and pathology of this subject are unsettled.

Dr. H. HARTSHORNE called attention to the fact that in this case the compressing agent was not only the thymus, but a tumour beneath the thymus. Here the death was sudden; a child of four months, previously well, found

[1] Jones and Sieveking, Path. Anat., p. 541.

dead—no other cause of death being apparent. The child was well developed; had had no asthmatic symptoms. The distension of veins seemed most *probably* to depend on pressure of this tumour.

Congenital Malposition of the Liver.—Dr. J. C. MORRIS drew the attention of the College to the following notes of an autopsy made by him:—

During the summer of 1853, I was for a time resident at the Episcopal Hospital, and thus met with a case in which a mistaken diagnosis was made in consequence of an unusual anatomical peculiarity. Mary Buchanan, aged 50 years, was admitted on the 23d of July, suffering with extreme œdema of the legs and ascites. She was very feeble; coughed incessantly day and night, and retched frequently; the skin of her legs had ulcerated in many places from the distension by fluid, which oozed away so fast as to form a puddle under her feet while sitting till a bed could be prepared for her. I could not detect any cardiac disease; the urine was highly albuminous, but not more so than is often the case where the kidneys are not degenerated; the ascites was not so great as to interfere with the recognition of hepatic dulness on percussion, extending downward almost to the crest of the ilium, on a line with the umbilicus. It was, therefore, supposed to indicate enlargement of the liver as the cause of the dropsy. She was subjected to an ordinary routine treatment of stimulants and tonics, calomel, squill, and digitalis, cream of tartar and juniper berries, until she finally sank on the 22d of August. On opening the thoracico-abdominal cavities, the heart and lungs were found to be healthy; the liver also appeared perfectly normal in structure, but instead of occupying the concavity of the diaphragm, it was lying on the right side, so that the left lobe occupied the ordinary position of the right lobe, while the latter was forced downwards and forwards. This appeared to be congenital. Both kidneys were far advanced in granular degeneration.

Nov. 5. *Foreign Body in the Lungs.*—Dr. WOOD stated that he wished to make a brief communication to the College on a somewhat interesting event which had come under his notice. He would begin by quoting from the Quarterly Summary of the Transactions of the College, Nov. 1, 1854, the following statement by Dr. Pepper:—

"Within the last few weeks, I have examined the case of a little girl supposed to have a piece of filbert shell lodged in the lungs; the physical signs, as well as the previous history, render it highly probable that such is really the case; and yet, although it is now about one year since the accident, the general health is but little if at all impaired, the only inconvenience being a slight occasional cough."

This patient, Dr. Wood went on to say, was a niece of his own, and was about six years old at the time of the accident, which happened in May, 1853. Ever since that time, up to a recent period, she had been subject to a cough,

sometimes milder, sometimes more severe, with occasional violent paroxysms; and, upon slight exposure, or even without exposure, attacks of bronchial inflammation with more or less fever would supervene, sometimes confining her to bed, and lasting several days or even weeks. There was frequently a wheezing sound to be heard in her respiration at a little distance; and bronchial râles, sibilant, sonorous, and mucous, were observable upon auscultation more or less at all times, and in almost all parts of the chest, but loudest over the upper part of the right lung behind. There were never any physical signs of pneumonia; no blood or pus of any amount was known to have been expectorated; no consolidation of the lung was in any portion or at any time discoverable. What local disease existed appeared to be purely bronchial.

At one period there was so much paleness, emaciation, and debility, as to suggest the idea that tuberculosis might be impending; but the symptoms improved under the continued use of cod-liver oil and a nutritious diet.

Great care was at all times taken by the parents that the child should not be exposed to the danger of taking cold, and that she should not be allowed to over-exert or fatigue herself. When the symptoms of acute bronchial inflammation were apparent, moderate treatment of an antiphlogistic character was adopted; as rest, low diet, and the use of gentle saline catharties and refrigerant diaphoretics. At other times an expectorant mixture was occasionally used, with a little solution of morphia in it, to control the cough when troublesome.

While absent from the city in August last, Dr. Wood received a letter from the mother of the child, informing him that, in a suffocative paroxysm of coughing, she had suddenly thrown up the offending cause, which proved, as had been supposed, a piece of filbert shell, and that since that time the cough had disappeared, and the child been restored to health. On his return he examined the chest carefully, and could discover no abnormal sound; and at the present time the little girl is free from every sign of disease.

The fragment of shell was discharged on the 16th of August last; so that it had remained within the chest for at least four years and two months. The mother stated that when she first saw it, there appeared upon its surface a covering of somewhat tenacious matter, having an offensive smell. Dr. Wood presumed that the piece of shell had been lodged during this whole period in the right bronchus, where it had probably become fixed immovably in consequence of its size. It is of an irregularly oblong shape, with one rather sharp and projecting angle, somewhat concavo-convex, four-tenths of an inch long, by somewhat more than three-tenths in breadth, and about one-tenth in thickness.

Dr. Wood exhibited the fragment to the College.

Dr. GILBERT said that he was acquainted with a boy who, in the fifteenth or sixteenth year of his age, discharged from his air-passages a trunk nail, five-eighths of an inch in length, which was supposed to have been swallowed

several years before its expulsion. The health of the boy was subsequently improved.

Chronic Disease of the Urinary Organs characterized by Anomalous Symptoms.—Dr. Ruschenberger read for Dr. O. J. WISTER, of Germantown, the following communication :—

The diagnosis of internal tumours is admitted to be sufficiently difficult and uncertain; and the following case, in some degree illustrative of this, may not be entirely without interest.

The patient, aged 64, of active and temperate habits, and free from hereditary predisposition to any of the diseases which are ordinarily believed to be transmissible, applied to me early last spring. He complained of loss of appetite, and slight pain and nausea, which occurred about an hour after taking food and continued in a greater or less degree for two or three hours. There was no epigastric tenderness, the tongue was moist and slightly furred, the bowels somewhat sluggish, and the general strength rather diminished; but beyond the inconvenience already mentioned, there was no complaint. The case seemed to be one of laborious digestion, arising from debility of the secreting apparatus of the stomach. I directed him to take five drops of nitro-muriatic acid, with some comp. tinct. of gentian, before each meal, and a pill of blue mass and comp. ext. colocynth at bedtime, should the bowels remain torpid. Under this treatment he so far improved, that after three or four visits he no longer came to me, and I lost sight of him till the early part of October (about six weeks before his death), when I was sent for.

At this time he was extremely feeble and very much emaciated; his complexion had a pale ashy hue, the tongue was coated and rather dry, the pulse frequent and compressible, and the whole appearance haggard and worn. He said that for several weeks he had not been so well, but hoped to get on without assistance; and had, therefore, not applied for aid until the rapid increase of his symptoms had alarmed him.

The discomforts of the spring had returned in an exasperated degree; the loss of appetite was total, and the nausea had increased to vomiting almost every article of food as soon as it was swallowed. Still, he spoke of but little pain, and the epigastric tenderness was so inconsiderable that firm pressure was easily borne. After many questions, he finally informed me that when he lay on his back the abdomen became hard; and on putting him in that position, I discovered a tumour which extended from the pubes to about an inch above the umbilicus. The tumour was sufficiently prominent to be obvious to the eye alone; whilst on pressure it yielded to the hand a sensation at first somewhat elastic, but when more firmly pressed it seemed fleshy. The examination gave the patient no pain, nor did the manipulations produce any desire to pass water, as might have been anticipated had the disease involved the bladder. The patient stated that for some years he had been

accustomed to urinate more frequently than in earlier life, but did not think that it required any particular effort.

Finding that some enlargement of the prostate gland existed, I introduced a catheter, from which trickled about a tablespoonful of natural-looking urine, and then the discharge stopped.

During the period of my attendance, the tumour always presented the same characteristics, and the urine continued to be passed regularly, and in sufficient quantities. I concluded that he had chronic inflammation, or possibly cancer, of the stomach; and the probability of the latter being the case was much increased by the appearance of coffee grounds vomiting, which took place repeatedly for some days preceding death. As to the nature of the tumour I felt unable to decide, its obscurity baffling all certainty.

Autopsy, fifteen hours after death.—On opening the abdomen, the tumour proved to be the bladder, dilated to the capacity of a quart, and filled, but not distended, with urine. Old and firm adhesions connected the organ with the walls of the abdominal cavity, as well as with some of the neighbouring viscera; and I presume the small discharge of urine, which followed the introduction of the catheter, was due perhaps to these adhesions, which prevented the contractions of the bladder; while as the patient lay on his back, but a small quantity would be enabled to escape by gravity alone. The muscular coat was greatly thickened, but otherwise the organ presented a healthy appearance.

The lateral lobes of the prostate gland were enlarged about one-third, and had the effect of reducing the orifice of the bladder to a very narrow longitudinal slit, through which the urine must have been expelled with difficulty; and hence the dilatation and muscular hypertrophy. The right ureter and the pelvis of the corresponding kidney were much dilated, and the cortical portion of the kidney itself was rather diminished—otherwise it was normal.

The stomach exhibited every evidence of widely spread and long existing inflammation; the mucous membrane being generally thinned and softened, and in many places entirely removed, but towards the pylorus it was thickened and dark-coloured. The dimensions of the organ were greatly increased, but its functional ability must have been almost entirely lost. The liver and other viscera, save those already named, were quite healthy.

In reviewing the case, it seems strange that disease so situated and so extensive, could yet have given so little notice of its presence, that the comfort and physical capacity of its victim were not seriously affected until within a few weeks of dissolution.

Fatal Disease of the Appendix Vermiformis.—Dr. Caspar Wister read the following paper:—

The appendix vermiformis exists only in man and two superior species of the quadrumana, the orang and the ape. It is the type of the prolonged cæcum common to all other mammiferous animals. During fœtal life it is

continuous with the cæcum, and of the same size, and is developed from the cul-de-sac of the latter. Bischoff admits that the earliest recognition of its origin was by Meckel, in a fœtus seven lines in length.

The appendix is ordinarily three inches long, with a diameter of two lines, but is subject to great variety of size as well as position. Occasionally it is entirely absent, while Welga has seen it nine inches long, with many convolutions, and Autenrieth four, and as large as the colon.

It is entirely enveloped by the peritoneum, which forms for it also a true mesentery, holding it loosely in position. The muscular coat is not in bands, as in the colon, but surrounds it as in the rectum. The lining membrane is contiguous with that of the cæcum, and forms a valve at the entrance, the falciform edge of which looks towards the right and downwards. This valve, in most instances present, prevents the introduction of foreign bodies, but permits free exit to mucus, of which in adults there is a large supply, with rarely any admixture of alimentary matter; in infants, on the contrary, it is filled with meconium. The glands within are very numerous, and of the solitary variety. The extremity of the appendix is found at times in the pelvis, more commonly posterior to the colon; its position is entirely uncertain.

The function of this body is supposed to be similar to that of a gland; it furnishes an acid secretion which causes the chyme in the cæcum suddenly to acquire the property of reddening litmus paper.

The subject of the following notice was a boy of five years of age, fair skin, light eyes and hair, and delicate physical development, the son of a father lately dead with phthisis.

This child was visited professionally on the first of November; he was at that time out of bed and in his ordinary dress. His expression was languid; he had much fever, with a pulse of 130; his tongue was covered with a slight white deposit, through which the papillæ were projecting, the tip and edges being unusually red. He complained of pain in the abdomen, describing it vaguely as "stomach ache," without giving it any locality. This pain was spasmodic, recurring at short intervals; sharp and griping, but followed by complete relief. At this time there was no pain upon pressure, or soreness over the abdomen. On the afternoon of the day but one preceding, an ordinary walk had been followed by complaint of much weariness, and in the course of the night by the first expression of pain, and this without any chill. Throughout the following day there had been some fever and pain, but this was not thought of sufficient gravity to require medical interposition. There had been no motion of the bowels during the forty-eight hours immediately preceding the first professional visit; and at that time the case had the aspect of an ordinary slight attack of colic, with the sympathetic fever natural to a child of sensitive organization, teeming with sympathies ready to respond to slight disturbance of the economy. A mercurial purgative was directed, and a febrifuge at intervals. There had been no unusual article of diet taken,

except a moderate quantity of chestnuts. The night was much disturbed, with an increase of both fever and pain; the latter still in paroxysms.

The morning of the 2d, in consequence of the purgative not having operated, a copious enema was administered, which produced a large fecal discharge, none of it of a dry or impacted description, but containing distinct evidence of the operation of the mercurial. The child expressed a sense of relief; and, after a dose of oil and a fomentation adjusted over the seat of pain, he was confined to bed.

The following morning, Nov. 3d, there was a spontaneous motion of the bowels, without any improvement; there was now tenderness over the abdomen although, during the paroxysmal pain, pressure with the hand was grateful. This pain continued the chief subject of complaint, engrossing the child's mind, and provoking constant expression of distress. He commenced frequent doses of small quantities of calomel, with full proportions of ipecacuanha and opium, and employed gum in solution largely as a diet.

On the 4th, the symptoms were more grave, greater pain upon pressure, some tympanitis, and soreness attending all motion of the person; the spasmodic pain still, however, caused most complaint, and recurred at short intervals. Leeches were now applied over the entire abdomen, all other treatment being continued except the use of ipecacuanha; this was withdrawn in consequence of slight vomiting. After leeching there was less complaint of pain upon pressure, and soreness and nausea disappeared, while stimulation was found necessary.

On the morning of Nov. 5th, he presented excessive tympanitis, constantly recurring paroxysms of pain, great restlessness, sunken features, some tenderness upon pressure, and a pulse of 140. The child was, after consultation with Dr. Wood, placed under the full effect of opium, with an increase of the mercurial, and a blister over the abdomen. The rectum was relieved of a large accumulation of gas by the introduction of a catheter, but all motion of the bowels was in vain solicited. Under the full effect of the opiate there was less exhibition of pain and restlessness, without any arrest of disease; tympanitis greatly increased, and compressing the stomach caused regurgitation of fluid, and much depressed the vitality of the entire organism.

Nov. 6. Small quantities of oil of turpentine, with full doses of the officinal solution of morphia, were administered, accompanied by further stimulation. Gradual sinking under the unchecked march of disease, aided by the accumulation of gas, terminated in death on the 7th of the month, seven days after the commencement of treatment; this being the result of a disease deficient in symptoms sufficiently distinct for satisfactory diagnosis, and only decided in the steadiness with which it resisted treatment.

After death the abdominal cavity was found dry, with indications of peritoneal inflammation, consisting most conclusively in a few patches of pasty lymph upon the intestinal surfaces. There was an engorgement of the vessels

of the intestines, but being in longitudinal bars from the diaphragm to the pubis over the entire mass, there was some doubt as to the time of its occurrence, particularly as signs of incipient decomposition existed elsewhere. The intestines, from the pyloric orifice of the stomach to the sigmoid flexure of the rectum, were greatly distended with gas, and contained, beside, a large amount of fluid fecal matter. The stomach was empty and much contracted, the accumulation of gas having pressed it against the diaphragm, and in so doing caused the latter to encroach upon the thoracic viscera, thus rendering the last hours of life a most painful exhibition. The lining membrane of the intestinal canal was healthy throughout, and the cause of death was not manifest until the appendix vermiformis was examined. This was perforated at the lower extremity; the opening being large, with ragged edges, indicating ulceration, and partially filled by a plug of concrete matter of the size and much the shape of a date-stone, composed of small seeds, many of these, from figs, associated with concrete matter deposited in layers, and arranged in concentric circles.

In this instance, the extremity of the appendix rested in the pelvis upon the rectum, immediately over the fundus of the bladder; here an effusion of the contents of the intestines had occurred, but in small quantity, owing to the plug having filled the ulceration it had caused in the appendix.

The matter effused had given rise to excessive inflammation and the formation of much lymph, an attempt having been made to form an abscess and inclose the offending fluid. This deposit of lymph extended over a surface of three inches in diameter, was dark in hue, passing into gangrene; and, although adhering strongly to the intestinal surfaces, left them, when removed, healthy in appearance. Those surfaces of the sigmoid flexure of the rectum facing each other in the natural position were strongly adherent for a distance of three inches, and consequently prevented peristaltic motion at this point. This explained the retention of gas after the peritoneal symptoms became decidedly marked, although there had been a free passage of fecal matter in an earlier stage of the disease.

Again, the son of a very distinguished physician of this city, twenty-two years of age, passed Sunday evening in the society of his family and a small collection of his father's friends; he was gay and apparently in good health.

A few days previously he had complained of vague pains in the abdomen, not however of a degree to attract particular attention.

He retired on the evening above mentioned without any unusual sensations, but awoke before daylight with intense colic. This increasing, his father sent for a medical friend, after exhausting his own resources and failing to procure relief. Throughout Monday the symptoms of colic continued without abatement, and as the day wore on only presented indications of peritoneal complication. There was a large, though not excessive accumulation of gas, the most prominent feature of the case being excruciating pain, from which only partial relief was procured by complete narcotism. The bowels

resisted every attempt to procure evacuation of their contents after the earliest stage of the disease.

On Monday night and Tuesday morning the agony of the patient began to abate, but only to be followed by collapse, with cold damp surface and failing pulse; he gradually sank, and died in the course of the morning, after an illness of thirty hours.

The abdomen was found after death much distended by gas, free from effusion, and not affording any evidence of excessive peritoneal inflammation. The effect of disease in this case could be traced with much confidence, as the examination was made on Tuesday afternoon, a few hours after death, and but a short time was allowed for decomposition to embarrass investigation.

The appendix was much distended at its lower extremity by a concrete mass composed largely of raisin seeds. Its walls had not been perforated, and contained, with the foreign matter, an accumulation of pus, the whole forming a mass the size of a walnut. The appendix partially embraced the ilium, adhering to it strongly, and completely strangulated the small intestines; which were, for a distance of six feet above, of a dark mahogany colour and passing into gangrene. At the point of strangulation there had been much inflammation with large effusion of lymph; the walls of the tumour were thin, bursting under pressure of the fingers; but, having retained its contents during life, there was no discharge of foreign matter into the peritoneal cavity giving rise to peritonitis and masking the earlier symptoms of colic, as in the case just described.

Moreau cites a case identical with this, the ilium having been strangulated by adhesion of the appendix to the mesentery; while Marteau has seen the jejunum, and Scarpa the colon, embraced in the same manner and with a like effect.

Klockhof reports a case in which the appendix adhered to the colon by its extremity, thus forming a loop through which the small intestines had passed, producing strangulation.

Merling, in examining a subject, found the appendix adherent to the colon by its lower extremity, and forming a free communication between different sections of the intestine, but was unable to learn anything of the previous history of the individual, or under what train of symptoms this union occurred, evidently followed by entire recovery.

Again, the appendix is at times metamorphosed into a hydropic capsule, as reported by Rokitansky, from the presence of a concretion in the tube closing the canal and preventing escape of the mucous secretion. This causes the extremity to become dilated, and the mucus to pass into the condition of a serous membrane secreting an albuminous fluid.

Beside the foreign matter collecting in the appendix mechanically, tuberculous and typhoid deposits are laid down at times in its walls, giving rise

to ulceration. When, in addition to these varieties of disease, we consider the fact, that a long time may be required to establish the existence of serious symptoms, since it is asserted that a concretion may exist and only give rise to blennorrhœa, a correct diagnosis is only equalled in difficulty by its importance. Ulceration of the appendix is not necessarily fatal, but forms abscesses at times pointing in various directions, according to the variety of directions assumed by the appendix; and it is of great moment that these should be anticipated and discharged at the earliest period possible, and the risk of an internal rupture of their walls diminished. In the cases cited above, the earliest symptoms were of colic, excepting the obstinate constipation, the bowels having been freely evacuated without relief. In both, the earlier symptoms were overlaid by peritonitis; while in one there was an attempt to form an abscess, the constitution failing before it was accomplished.

Dr. LEVICK remarked that it would be a matter of interest to ascertain if there were any peculiar symptoms which would enable us to localize during life the seat of diseases of this kind. In neither of the interesting cases reported by Dr. Wister was there anything which could have directed attention especially to the appendix vermiformis, the phenomena presented being those of "colic without the ordinary constipation."

Though not of very frequent occurrence, diseases of this structure exist sufficiently often to render their observation of importance. Two autopsies had come under Dr. L.'s notice in which death had been produced by perforation of the appendix; while in a third case fatal strangulation of the intestine had been occasioned by a diverticulum closely resembling in size and appearance the vermiform appendage, but given off higher up the intestine. A record of this case was printed in the *Transactions of the College*, vol. 1, No. 10, N. S.; and, in the corresponding number of vol. 2d, a case of perforation of the appendix is reported by Dr. Gobrecht, and allusions are there made by other Fellows of the College to similar cases seen by them.

In the earlier symptoms of the first case reported by Dr. W., and still more so in that reported by Dr. Owen Wister, it would be remarked that there existed very serious disease with little or no pain. This absence of pain had been strikingly exemplified in some fatal cases which had come to the knowledge of the speaker.

The first of these was that of a man who died a few years ago in the Pennsylvania Hospital apparently of another disease; who had never complained of pain in either hypochondriac region. Upon examination, the liver was found to contain numerous encephaloid tumours. Another very similar case had recently occurred in the practice of a medical friend, in which there was no pain or other symptom leading to a suspicion of disease of the liver, which organ was found after death to contain quite a number of cancerous tumours. The third case was that of a man admitted into the hospital last summer, who

presented many of the symptoms of cancer of the liver; this disease was diagnosticated, and the patient especially interrogated as to the existence of pain in the hepatic region, which he uniformly declared he was free from. A post-mortem inspection showed the liver to be enlarged, and fairly studded with medullary tumours. Here, then, were three cases of malignant disease of an important organ, in which one of the most distressing symptoms was absent. Other similar cases have been reported elsewhere.

Dr. COATES could not recall the case alluded to by Dr. LEVICK. He had no doubt of the correctness of Dr. L.'s description of it; but this, like many other cases, had occurred at a time when taking notes was, from personal causes, entirely out of the question. Dr. C. had seen several curious cases in regard to the appendicula vermiformis.

Foreign bodies, such as may obstruct the passages, are more easily tolerated in the cæcum than in any other part of the alimentary canal; from the anatomical and physiological character of the part, this cavity is adapted to quiescence, and to the gradual accumulation of feces; the motions for the removal of which are unfrequent. The part is firmly fixed, well supported in the hollow of the os ilii, and but little supplied with nerves, or with irritability of the mucous membrane. These characters were all exaggerated in the horse, whose cæcum was of enormous magnitude, and adapted to very bulky accumulations from the character of the animal's necessary food.

Dr. C. then mentioned the very large calculus in his possession, the chemical analysis of which had been published in the proceedings of the American Philosophical Society by Dr. Boyé.

This calculus appeared to be the largest on record. On reference to Berzelius, the latter authority was found to state that calculi of a similar description, weighing 5 or 6 pounds, were not uncommon in the museums of Germany. The one in question weighed 11¼ pounds. It was originally in the anatomical museum of the Pennsylvania hospital, and was presented to Dr. Coates by the late Zaccheus Collins, Esq., in the name of the committee in charge, as a mark of respect for the labour bestowed on the museum by the former. From the record pasted on the stone, in the handwriting of the late SAMUEL COATES, it appears that the horse exhibited no visible signs of disease till within a week of his death. It occurred in a horse belonging to the late Mr. Peter Adams, miller, of Montgomery County, Pennsylvania. It was in the collection of an association called the School of Medicine, and was for several years in the possession of Prof. GIBSON. At a later period, the analysis of Dr. Boyé was made, and discovered it to be a mixture of the palcæ of oats, with a cement of phosphate of magnesia, the latter not exactly corresponding, as appears from the memoir of Dr. Boyé, with the atomic proportions of any of the phosphates of magnesia then on record; Dr. Boyé giving his own formula in his paper. After the process of Dr. Boyé, performed on fragments, the mass was sawed through the middle by Dr. Coates, who found it composed of concentric strata,

most of them similar in appearance to the external parts, but some of them of a slate-blue colour, a greater degree of hardness and a finer grain, with less exhibition of a chaffy structure; all surrounding one of those nails used to secure the shoes of horses.

Foreign Body retained upwards of Twenty Years in the Nasal Passage.—Dr. HAYS stated that the interesting case communicated to the College at its previous meeting by the president, in which a foreign body had remained four years in the lungs, recalled to his mind a case in which a foreign body had remained in the nose for, probably, upwards of twenty years, and a brief notice of which might interest the Fellows.

Some years since I was consulted by a lady of between twenty-five and thirty years of age on account of ozæna, with which she had been troubled ever since childhood. The disease resisted various means of treatment, and I discontinued my visits and lost sight of the case.

About four years subsequently, a Fellow of the College, Dr. Wm. Darrach, inquired of me if I recollected the case, and stated that the patient had afterwards fallen under his care, and that finding it very intractable, he had determined to examine into the condition of the bones of the nose. With this object he introduced a probe through the nose into the nasal fossæ, and while moving this instrument about there, he accidentally dislodged a mass which dropped into the opening of the nostril, and by an effort on the part of the patient was expelled. On examination, it proved to be an old-fashioned glass button with a brass wire eye.

The mother of the lady stated she remembered distinctly that one of her sons, when a child, had had a coat with similar buttons.

Dr. D. supposed that the lady, when a child, had been playing with one of these buttons, had placed it in her mouth, whence it had slipped into her throat and produced strangling, and that in the effort to expel the button it had been forced up through the posterior nares and lodged in the nose. Here as a foreign body it had become a source of irritation, and produced the disease for which we had been consulted.

Epistaxis arrested by the Administration of Common Salt.—Dr. CASPAR MORRIS reported a case of obstinate epistaxis, which had yielded promptly to the use of common salt taken into the mouth in doses of a teaspoonful. The idea of employing this remedy had suggested itself to Dr. M. while apprehending the probable necessity for resorting to mechanical means for the relief of the hemorrhage. Dr. M. was not aware that it had been employed in the treatment of this form of hemorrhage, and thought that, though apparently a trifling matter, the hint might prove important in some cases of this troublesome and sometimes fatal disease.

Placenta Prævia.—Dr. RHOADS read the following account of a case of placenta prævia: Having had my attention arrested by an original explanation of the spontaneous cessation of hemorrhage during labour, in certain cases of cervical attachment of the placenta, offered by Dr. Barnes in a lecture published in a late number of the *London Lancet*, I am induced to lay before the College the following case as illustrating the views there set forth.

I was called, 9 mo. (Sept.) 9, 1857, to see J. B., who had suddenly been seized with uterine hemorrhage. She was an apparently healthy woman, the mother of three children, and believed herself near the fifth month of pregnancy with her fourth child. I learned from her that, subsequently to the birth of her last child, she had suffered severely with inflammation of the womb, but that she finally regained good health, except having occasionally some leucorrhœal discharge.

She had retired that evening in usual health, and was awakened by a sudden gush of blood from the vulva, which, however, had somewhat subsided by the time of my arrival. Under the use of opiates and rest in bed for two days all symptoms of abortion disappeared; but, on the 13th, the hemorrhage again occurred more freely than before, with pain in the back and hips. Opiate enemata, and afterwards pills of opium and acetate of lead, were resorted to; and she was kept in bed for six days, only then being allowed to go into another room and recline upon a sofa.

Notwithstanding great carefulness, regular labour pains came on during the evening of the 23d, attended with such profuse hemorrhage that, when I saw her at 11 P.M., she was already blanched and feeble. The pains, which were weak and at long intervals, were accompanied and followed by an abundant discharge of blood, which gradually subsided in the intervals. The os uteri was sufficiently dilated to admit readily the introduction of the finger; but, as it was high up and surrounded by clots, no presentation could be perceived. The motions of the child were distinctly perceptible to the mother, and by the hand placed upon the abdomen.

As an abortion seemed inevitable, ergot was administered with the hope of bringing on more active pains. This result followed, the os uteri expanded to the size of a quarter of a dollar, the peculiar spongy feel of the placenta was recognized; and, as the hemorrhage was yet free, a tampon was inserted and stimulants given.

The tampon controlled the bleeding, and after remaining three hours it was removed, when the hemorrhage was found to have ceased. The os uteri was dilated, with the edge of the placenta protruding through it, the remaining portion of the latter being still adherent to the left and posterior part of the cervix. The finger was passed up beside the placenta to the membranes, which were ruptured, and the presentation found to be a footling one. Traction upon the foot was used, and the fœtus readily delivered. The placenta still remained

attached to the uterus, and required to be separated by the hand. Its tissue appeared to be normal but unusually firm.

Now what is the rationale of this simple yet interesting case? The primary cause of the abortion was, probably, the unhealthy state of the womb consequent upon the acute inflammation it had undergone as shown by the leucorrhœal discharge. The uterine contractions parting successive portions of the placenta, hemorrhage ensued from both the placental and uterine surfaces thus exposed; which hemorrhage was abundant during and just after the contractions, and subsided in the interval.

The pains were twice allayed by the opiates, but, finally continuing, the portion of the placenta implanted over the os uteri was wholly detached from and protruded through it. Now, since the longitudinal fibres of the uterus contract less near the cervix than towards the fundus, no further disjunction of the placenta took place; no new source of hemorrhage was supplied; while the pressure, during the presence of the tampon, had stopped the previously bleeding vessels by coagula. For the same reason the after-birth remained adherent after delivery, and required to be peeled off by the hand, the facility with which this was done proving the absence of any abnormal adhesions.

The remark of Dr. Simpson, that in these cases the child has usually been long dead, and that hence the vascularity of the placenta and of the parts to which it is adherent has greatly diminished, did not apply in this case, as the fœtus was certainly alive at the commencement of the labour.

1858, *Jan.* 6. *Melanotic Tumours of various Thoracic and Abdominal Viscera, without External Evidence of Melanosis.*—Dr. GRISCOM gave the following verbal account of a case, the fatal termination of which he had recently witnessed:—

On the 3d of 9th mo. (Sept.), 1857, I was asked to see M. M., æt. about 58 years, who was then residing a short distance out of the city. I found her in her bed, with some pain in her right side. She had moderate fever, a rather harassing cough, with congestion of the lower lobe of the right lung; much burning of the hands and feet; a tendency to sweat at nights; an exceedingly irritable stomach, with water-brash and gastrodynia; her alvine evacuations were light-coloured, and her conjunctivæ were somewhat stained with a bilious tinge. The water-brash was entirely relieved by bismuthi subnit.; her fever subsided under the use of refrigerant diaphoretics, and she became in all respects so much better as to ride out, and on the 22d of 10th mo. (Oct.) came to the city.

She appeared a good deal exhausted by her ride, and continued to suffer much prostration from slight exertion. She was, however, well enough to be down in the parlour a part of the time, and acknowledged but little discomfort, excepting a continual soreness in the right side over the upper surface of the liver, and a repugnance to all food excepting *buttermilk*—of this she partook

freely, and seldom rejected it, while every attempt to change her diet was followed by speedy vomiting. Her pulse during this period was uniformly about 80, her respiration natural, and very little cough, but her night-sweats increased; the burning of hands and feet became intense, and her skin was rapidly growing pallid. The liver was somewhat enlarged, and pressure over it gave pain; a hardened mass could be felt in the region of the pyloric orifice of the stomach.

Towards the close of the year, the pain in her right side became at times very severe; she was now obviously losing strength, and without any marked change in her symptoms, she died on the evening of the 4th of 1st mo., 1858.

Her previous history, as learned principally from a very intelligent acquaintance, is, that at 25 she was a vigorous young woman, with a florid colour and active temperament, but subject to hemorrhages from the mouth after severe exertion; the discharge of blood was not accompanied by cough, but was supposed to come from her stomach. She had been affected with water-brash and gastrodynia at times for the last twenty years, with precarious appetite and a very irritable stomach, accompanied by headache; she had also at times mild articular rheumatism, but was considered generally to enjoy good health. About a year ago it was obvious to her friends that her vigour was diminishing, although she did not acknowledge it.

The post-mortem examination was conducted by Dr. Levick, assisted by Drs. Griscom, Stroud and Wharton by.

Dr. LEVICK then exhibited a portion of the diseased structures, and gave the following description of the appearances observed at the autopsy:—

The *exterior* was pale; no discoloration; a slight layer of fat in the line of incision.

Thorax.—Upper portion of the pleura slightly adherent. An unusual amount of dark pigment matter on the anterior surface of each lung. On removing the lungs from the thorax, this dark deposit was found in great abundance, both anteriorly and posteriorly. It appeared to be placed beneath the pleura, near the surface of the lung itself, arranged in thin curved layers, corresponding somewhat to the outline of the ribs. Besides being deposited in this form, there existed also numerous round black tumours, in size varying from a pin's head to a filbert. From the base of the right lung a melanotic mass about three-fourths of an inch in length projected towards the diaphragm.

The *bronchial glands* were enlarged, and full of soft melanotic deposit.

The *heart* was of natural size, the muscular structure of the right side having undergone to an unusual extent the fatty degeneration. The valves were healthy. The aorta contained slight atheromatous degenerations with a scarcely perceptible discoloration of its lining membrane.

The *liver* was of a pale violet hue, and imparted a doughy sensation to the finger. More than thirty black tumours, varying in size from a pea to a

horsechestnut, were found on the under, and numerous similar masses on the upper surface of the gland. The interior structure was dotted throughout with minute black points.

The *gall-bladder* contained a quantity of dark bile, and a calculus of the size of a marble. Two masses of a greenish black colour projected from its lining membrane, and hung loosely into its cavity. In colour, consistence and general appearance, these closely resembled clots of blood undergoing decomposition; but were found, on close examination, to be of the same pigmentary formation.

The *spleen* was enlarged, and of a rich garnet colour.

The *pancreas* was hard, tumefied, and contained numerous melanotic tumours.

The *stomach* was ulcerated near the pyloric orifice; this latter was much narrowed. The whole of the lining membrane was dotted with small black patches. A similar discoloration existed throughout the whole tract of the intestines.

The *kidneys* were of natural size, and contained on their outer surface several small melanotic tumours. Three small black masses hung loosely in the cavity of the left kidney, while the lining membrane of each pelvis was studded with minute black patches.

The *uterus* was in size, &c., natural, but on the anterior and posterior lips were observed similar black patches encircling the os tincæ.

There would appear to have been in this case a remarkable tendency to the pigmentary or melanotic formation. Every internal tissue examined, with the exception of the circulatory apparatus, exhibited this. The infiltration, if we may use the word, extended to both normal and abnormal structure. That such was the fact, was proved by careful microscopic examination. Sections of the tumours taken from the liver were found by Dr. S. W. Mitchell to contain, beside the pigment granules, numerous characteristic cancer cells. In an examination of the melanotic matter taken from the different organs by Drs. J. Darrach and Levick, the masses in the kidney and pancreas were found to consist of cells and granules. The cells were filled with large granules and had large nuclei, with two nucleoli. The colouring matter from the lung was deposited in the sub-serous cellular tissue, and consisted solely of granules. This was much darker than that deposited in the kidney, liver and pancreas. Nitric acid added to the latter produced a yellow colour; with the former no change was effected. The deposit on the tissue of the pelvis of the kidney was of the same nature as that in the lung, nitric acid having no effect upon it.

It will be noticed that though the supra-renal capsule was so much affected, there was no discoloration of the exterior of the body.

1858, *Feb.* 3. *Annual Report on Meteorology and Epidemics.*—Dr. WILSON JEWELL presented and read the following report:—

The year 1857 has been one of almost unexampled health. With the exception of scarlet fever, which prevailed to some considerable extent, during the first quarter, no fearful epidemic has desolated our dwellings. The usual endemics have been less aggravated and fatal in their character, while the march of disease generally has been tardy in its progress, having failed to return its accustomed complement of deaths.

This acknowledged preservation of the health of our city cannot be attributed to the adoption of any special legislation for the removal of those injurious agencies which owe their origin to large cities, and are ever active in lowering the natural standard of mortality.

That there are existing causes for this unusual health will be readily admitted. But whether they are to be sought for in some concealed alteration of the usual sanitary condition of our city, or have their origin in the meteorological and climatic elements surrounding us, which are beyond the control of the hygienist, is a problem of great interest, but one that we are not now called upon to decide, as its investigation is of sufficient importance to entitle it to a separate consideration.

Notwithstanding, however, our apparent immunity from the visitation of any violent epidemic, it is undeniable that there lurk in our midst numerous patent, as well as latent disturbing causes, from which it is manifest the annual harvest of death is made rich. This opinion is verified by the fact that no less than 2,412 deaths have been recorded, during the year, from causes which are recognized as removable, or amenable to the observance of the laws of hygiene—morbid agencies, that would not have a place or a name upon our professional escutcheon, had we approached even within sight of the highest aim of the science of hygiene, "to the ultimate line of physiology—to death without disease." (*Blumenbach.*)

Few cities in the United States are more favourably located or enjoy a greater share of health than Philadelphia; and yet the force of circumstances, as developed by our mortuary statistics, compels us to acknowledge this fact, that there do exist disturbing influences—secondary causes, producing the germs of disease, the removal of which are not only neglected by the authorities, but, more than this, they are positively uncared for, it being neither expedient nor politically profitable, as a municipal measure, to inquire into their whereabouts and hasten their removal.

It is, or at least it should be, a subject of regret with every intelligent physician and philanthropist, that "the slow, continuous, increasing inroads of diseases, less rapid and alarming, but as certain and fatal as they are insidious," should excite so little anxiety and attention in the community. "The outburst of the epidemic will lead to a spasmodic effort at cleanliness, but the spirit of vigilance, thus engendered, dies too often with the causes

which called it forth." (*Newman.*) The weekly bill of mortality, if read at all, is read with no apparent solicitude. It calls forth no inquiry. It is only when the deaths are in excess from any one disease that the attention is arrested, and even then only for a moment.

It can hardly seem possible, that for every day on an average, throughout the year, upwards of thirty of the inhabitants of our city should pass away to the grave, and yet "the mourners go about the streets" unheeded. Nor does it but seldom, if ever, become a matter for serious inquiry, how many of these could have been saved an untimely death, by the intervention of a system of preventive measures faithfully administered.

It cannot be too frequently repeated that the abuse, neglect, or the violation of the laws of health, are at all times fruitful sources for a lengthened catalogue of unnecessary and preventable diseases, as well as for a large share of the mortality of our city. This annual waste of life, as a sequence of neglecting the faithful observance of sanitary regulations, is alarming, while it is not correctly appreciated. Its continuance is a blot upon the philanthropy of the people; it impugns their intelligence; it mars their comforts and saddens their enjoyments of life, and as it should be the first duty of every government to preserve the health and lives of its citizens, the attention of the authorities should be frequently directed to the subject, until it becomes with them the "great question of the day," and until, through their investigations, the producing causes shall be corrected, and the evils we have referred to be removed.

It is to be regretted, in the absence of a registration law, that there are no data by which we can compare the deaths in our city population with those in rural districts of the State. It is, however, an established truth, and has attained an unenviable notoriety, that the proportion of deaths to population is not only greater in cities, but that the average duration of life in cities is much below that of a residence in the country.

According to the reports of the Registrar-General of England, and presented in a statement drawn up by Dr. Guy, the relative mortality to population between town and country, is equal to 1 in 15 in favour of a country life; that is, he shows the rate to be 1 in 52 in the country, and 1 in 37 in towns. Taking this calculation as our guide, and fixing the death rate in our city 1 in 45, the average for five years from 1850 to 1854 inclusive, we have been hurrying to the grave annually 15 per cent. of the deaths recorded in our mortuary tables from causes peculiar to cities, all of which may be classed with deaths from preventable diseases. An English writer (Lee) on the comparative rates of mortality, has ventured the opinion, "that diseases of the class termed preventable are not inherent in, essential or peculiar to places of dense population," and his reasons are, that surplus water and organic filth, unremoved by drainage, without reference to other considerations, will inevitably increase the rate of mortality. We can readily understand, therefore,

that in the midst of a crowded population, in confined and badly ventilated neighbourhoods, the poison evolved exerts a fourfold influence over that of an open and sparsely settled locality, and hence the increased amount and high rate of mortality in cities.

But it will be impossible, in our limited report, to present this subject in all its important bearings, as it involves questions appertaining to our physical, social, and moral interests, which cannot be too highly appreciated or too ardently investigated. Suffice it to say, that "if the losses from evident neglect in hygienic precautions in our cities could be accurately estimated, the statements would be astounding."[1] During the year under consideration (1857), in our own city, the deaths known in the classification approved by the American Medical Association as zymotic, embracing epidemic, endemic, and contagious diseases, and which are ascribed to removable causes, amounted to 2,412, or 23 per cent. of the mortality, and of this number, 2,018, equal to 83 per cent., were in children and youth. To calculate the amount of sickness, on which these deaths depended, according to Dr. L. Playfair's theory, of 28 cases for each death, will involve 47,536 instances of unnecessary sickness. Add to this fearful picture its unnumbered calamities, the broken down health, the ruinous expenditure, the loss of wealth, of business, of friends, and the social, mental, and moral sufferings that follow in the train of evils, and we present but a faint view of the privations experienced in every community, from an ignorance of the laws of health and life.

To the politeness of our friend, Professor James A. Kirkpatrick, of the Philadelphia High School, are we again indebted for the following abstract of his meteorological observations for the year. These observations are made with great accuracy for the Smithsonian Institution, and from the well known character of Prof. K. for investigations of this nature, they are entirely reliable.

The mean temperature of the year was 53.48°, which is higher by 1.56° than in 1856; but a very little less, say 0.19°, than for the last six years. The coldest day of the year was the 18th of January, the mean temperature being 1°; the minimum temperature, however, 5½° below zero, occurred on the morning of the 24th of the same month, and was the lowest degree observed for the last six years.

The warmest day was the 14th of August, when the mean temperature was 87°; the maximum, 94°, occurred on the same day.

The mean temperature of the month of March was nearly 1¾° lower than that of February; the anomaly occurring in the latter month, it being more than 7° warmer than the mean for six years, while March was but 1¼° colder than usual. The same departure from general laws manifested itself through all the meteorological phenomena of February. The barometer was nearly

[1] Rep. on Hygiene, Trans. Am. Med. Assoc., vol. ii. p. 534.

half an inch higher. The dew point was 18° higher. The quantity of rain was less than one inch, while the average amount for the same month for six years is 2.647 inches. Notwithstanding this deficiency of rain, the force of vapor and the relative humidity of the atmosphere were greater than the average; and the direction of the wind was 29° more southerly than usual for that month. Indeed, the direction of the wind for the whole year has been nearly as much S. of W. as it usually is N. of W., as will appear by an inspection of the table.

The mean daily oscillation of the thermometer was 14.9°, the greatest being 30° on the 6th of April, and the least 2° on the 20th of February. The mean daily range of the thermometer, being the comparison of the temperature of one day with that of the same hours of the preceding day, gives for the year a variation of 5½°, the greatest being in February, and the least in July.

The range of the barometer was 1.626 inch—from 29.012 on the 26th of October, to 30.638 on the 12th of February.

The amount of rain that fell during the year was 48.448 inches, nearly 15 inches more than in 1856, and 5 inches more than the average for the last six years. The greatest quantity of rain in any one month was 8.039 in August; and the least 0.921 in February. The number of days on which rain fell was 132; the greatest number in any one month was 18, in June, and the least 7, in February. Snow fell to the depth of about two feet during the year. The greatest snow storm was on the 18th and 19th of January, when it fell on an average ten inches deep, but was drifted in some places to the depth of 6 to 8 feet.

The Delaware River was closed with ice about the 22d of December, 1856, and was not open again for navigation until the 8th of February, 1857. The latest ice in the spring was formed on the 8th of April. The first in the fall was on the 15th of November, though there was a pretty smart frost in the neighbourhood of the city on the night of the 21st of October.

Abstract of Meteorological Observations made at Philadelphia, Pa , Lat. 39° 57′ 28″ *N., Long.* 75° 10′ 28″ *W. from Greenwich, for the year* 1857. By Prof. JAMES A. KIRKPATRICK.

1857.	Barometer Reduced to 32° F. (Height above high water 50 feet.)					Thermometer. (F.)						Dew-point, 2 P. M.				Force of vapour, 2 P. M.	Relative humidity, 2 P. M.	Rain and melted snow.	Winds.
	Monthly mean.	Monthly maximum.	Monthly minimum.	Monthly range.	Mean daily range.	Monthly mean.	Monthly maximum.	Monthly minimum.	Monthly range.	Mean daily range.	Mean of daily oscillations.	Monthly mean.	Monthly maximum.	Monthly minimum.	Monthly range.				Monthly resultant; No. of times in 1000.
	Inches.	Inches.	Inches.	Inches.	Inches.	°	°	°	°	°	°	°	°	°	°	Inches.	Hund'ths.	Inches.	
January . . .	29.862	30.500	29.225	1.275	.220	20.92	38	—5½	43½	7.7	10.3	15.35	35.1	—5.3	40.4	.097	67	2.989	N. 71° 3′ W., 454
February . . .	30.034	30.638	29.599	1.039	.180	39.94	68	9	59	9.2	15.0	36.48	61.9	7.2	54.7	.250	68	0.921	S. 78° 26′ W., 301
March	29.839	30.304	29.229	1.075	.200	38.23	63	9	54	6.4	15.0	28.64	48.0	10.9	37.1	.167	55	1.773	S. 81° 52′ W., 306
April	29.733	30.240	29.163	1.077	.188	45.44	64½	20	44½	6.0	15.8	34.49	50.3	12.7	37.6	.210	55	6.932	S. 84° 17′ W., 261
May	29.748	30.193	29.402	.791	.144	61.22	86½	42	44½	4.8	15.8	47.33	63.5	26.7	36.8	.343	51	6.043	S. 63° 26′ W., 210
June	29.663	29.894	29.182	.712	.094	71.21	88	50	38	4.2	14.4	59.31	70.4	43.8	26.6	.518	57	7.426	S. 72° 11′ W., 187
July	29.808	30.071	29.469	.602	.070	77.26	91	53	38	2.9	14.5	64.84	71.2	53.6	17.6	.621	57	3.373	South 190
August	29.811	30.040	29.539	.501	.115	75.26	94	60	34	3.2	15.3	63.24	74.3	54.7	19.6	.590	56	8.039	S. 63° 26′ W., 226
September . . .	29.936	30.244	29.630	.614	.109	69.17	87	44	43	4.6	17·5	55.34	71.2	34.6	36.6	.460	51	1.132	N. 82° 52′ W., 150
October	29.830	30.199	29.012	1.187	.161	56.19	77	35	42	4.3	15.0	46.43	66.3	21.6	44.7	.337	58	2.742	N. 28° 48′ W., 265
November . . .	29.883	30.473	29.117	1.356	.181	45.86	78	19	59	7.1	16.9	34.99	73.8	5.2	68.6	.240	53	1.575	S. 68° 30′ W., 310
December . . .	29.899	30.406	29.266	1.140	.205	41.03	64	19	45	5.7	13.4	31.19	52.2	13.2	39.0	.184	60	5.503	N. 58° 0′ W., 233
Annual means .	29.837	30.638	29.012	1.626	.156	53.48	94	—5½	99½	5.5	14.9	43.14	74.3	—5.3	79.6	.335	57	48.448	S. 86° 25′ W., 216
Winter	29.952	30.678	29.100	1.578	.208	30.32	68	—5½	73½	7.7	12.5	24.70	61.9	—5.3	67.2	.160	66	7.529	N. 81° 29′ W., 367
Spring	29.773	30.304	29.163	1.141	.177	48.30	86½	9	77½	5.7	15.5	36.82	63.5	10.9	52.6	.240	54	14.748	S. 77° 25′ W., 255
Summer	29.761	30.071	29.182	.889	.093	74.58	94	50	44	3.4	14.7	62.46	74.2	43.8	30.5	.576	57	18.838	S. 46° 58′ W., 172
Autumn	29.883	30.473	29.012	1.461	.150	57.07	87	19	68	5.3	16.5	45.59	73.8	5.2	68.6	.346	54	5.449	N. 75° 58′ W., 192
For six years . .	29.884	30.709	28.895	1.814	.153	53.67	100½	—5½	106	5.6	..	44.58	78.5	—5.9	84.4	.345	59	43.502	N. 75° 12′ W., 223

The whole number of deaths for the year (Table I.) in the consolidated city, embracing the entire county, from all sections of which returns are made to the health office, were 10,895. Compared with the deaths for 1856, as shown in our last report to the College, amounting to 12,334, there is a difference of 1,439, equal to 6.19 per cent. in favour of 1857.

Estimating our population to be 575,000, an increase less than 4 per cent. for the year, and which, by some statisticians, will be thought quite too low—the rate of mortality has been as one to every 52 of the entire population, and to every thousand, as one in 18¼. These rates exceed the natural standard of mortality assumed by statisticians for cities, that is, 2 per cent., or as one death to every fifty of the inhabitants. It is well known, however, that the ratio of mortality is much greater in large cities.

The above estimate for 1857 is one of unusual occurrence, and marks an almost unexampled state of health during the year. For a series of years the calculation will present a less favourable result.

In the five years, from 1850 to 1854 inclusive, the average ratio was as one to every 45 of the population, or 22 in every thousand, which result will be found a more favourable rate for a series of late years than in any other city, with the exception of Charleston, S. C., where for eight years, up to 1849, the average of deaths to population was as 1 in every 52.

The following table will show the comparative mortality of four of our large Atlantic cities for 1857:—

		1857.			
Cities.	Population.	Deaths.	Per ct. of deaths to pop.	To the pop. one in every	To every 1000 of the pop.
Boston . .	170,000	3,958	2.32	42	23
New York . .	720,000	23,370	3.24	41	32
Philadelphia .	575,000	10,895	1.89	52	18
Baltimore . .	235,000	5,120	2.17	45	21

This statistical index to the comparative health of the cities named, confirms what we have already said of the uncommon health of our city for the past year, and substantiates our assertions elsewhere, that in comparison with other large cities we are decidedly the healthiest.

In every analytical shape it reveals the fact of our superiority in this particular relation. Contrasted with New York, the disparity is too obvious to be misunderstood. The difference in the population of the two cities when compared with the variation in the deaths forms a striking feature in the calculation.

While the estimated population of New York city is greater by 145,000, or 11 per cent., than that of Philadelphia, the deaths in the former were more by 12,475, or 36 per cent., than those in our own city.

The death rate to population presents a like favourable comparison. While in New York it stood 1 in 41, Boston 42, and Baltimore 45; in Philadelphia it was 1 in 52, a gain of 1 in every 8 over the average proportion of the other cities.

The deaths for each quarter averaged 2,723; for each month 908; for every week 209; for each day 29¼, and for every hour throughout the year 1⅛th.

A marked difference, however, exists in the rates of death for the four quarters. In the third it amounted to 3,269, equal to 18 per cent. over those for the fourth quarter, which stood 2,186. In the first quarter they were 3,042, exceeding those for the second by 11 per cent. The cause or causes for these variations in the different seasons will be found in the fact, independently of all general predisposing or exciting causes, either internal or external, that the deaths in the first and third quarters were materially enhanced by the prevalence of scarlet fever in the former, and cholera infantum in the latter.

The aggregate ages of those who died during the year reached to 221,327 years. This will make the average duration of life 20.31 years for each individual. In Boston, the average for 1855 was 19.88, but for the entire State of Massachusetts it was equivalent to 27.43 years. These calculations serve as approximate evidence towards the truth of a favourite theory, that the duration of life is shorter in cities than in country districts. They also aid in establishing the opinion advanced by statisticians that the duration of life in cities, instead of increasing, is on the decline. In our own city, for instance, from 1810 to 1820, the estimate fixed it at 26.25 years, and from 1840 to 1844 it was reduced to 22.01 years, and from that period to the present it has been annually lessening. A similar result will be found to apply to New York and Boston. In England, it is also affirmed that, in the application of the principle to the population of large towns, there is a decline of their vital energies, their powers of endurance being less, and as a consequence the average duration of life is diminished.

This early waste of life, as it applies to our own city and to other large cities in this country, will be found to depend in a great measure upon the alarming sacrifice of human life in infancy, a reprehensible immolation growing out of the distribution of evils in every community that are not only preventable, but at the same time are culpably neglected.

In this city, for the last five years, the mortality in children under five years of age will average 47 per cent. of all the deaths. In New York it is still more frightful. For fifty years the average deaths under five years have been equal to 50 per cent. of the mortality. And if for fifty years, how much more deplorable within the last few years, when in a single year, according to their own statement, "in 1853, the excess over one-half the entire number of interments of all ages in the city reached to thousands." From the City Inspectors' report for 1854, '55, and '56, it appears that 58.83 per cent. of the mortality was in infants under five years of age.

During the past year, in our own city, 48 per cent. of the deaths, or 1 in every 2 and a fractional part that died, were under 5 years. Nor would it be an exaggerated calculation, to so harrowing an extent have the causes for mortality in early infancy increased, if we should estimate that more than a moiety of those born in cities are hurried out of existence, perishing prematurely

before their tenth birthday, the victims of a common neglect of the laws of health.

"An unripe harvest for the scythe of death."

Of 10,000 living children born in England, only 8,461 are alive at the end of the year; and of 1,000, there remained alive at the end of ten years 534. Facts like these, a counterpart of which may be found to exist in the large cities of the United States, where, as it is well known, the duration of life is greater by 3½ per cent. than in those of Europe, make a forcible appeal to the sympathies as well as to the intelligence of every physician and philanthropist, and are arguments of the necessity for an improvement in the sanitary condition of our city. Blessed as we are with health, in comparison with some other cities, an examination of our mortuary record still fastens the conviction, of the unmistakable existence of pernicious causes for the early work of death, that are removable, and may be reached through the enforcement of a sound sanitary police. Having pointed to the inevitable necessity for such a reform, we might inquire, and it is pertinent to the subject, why have not these salutary measures been enforced? and where lies the fault? The intelligent and observing physician comes into daily contact with these evils; he analyzes them; he traces them to their various sources; he points them out to those who have the rule of the municipality; he teaches the doctrinal truth, that they are susceptible of amelioration, and in some instances of entire removal, by proper sanitary precautions that are within the control of human authority; but his voice is hushed, in the demand for legislation far inferior to that of health and life, exalted happiness and prosperity; and he mourns over the indifference with which his toilsome investigations and his wholesome and humane suggestions are received, or at the ridicule and contempt thrown upon his statements, and thus terminates too frequently his laudable efforts. These injurious influences not being alleviated are annually increasing, because the civil authorities, either from ignorance, or an unwillingness to consider sanitary legislation essential to the political interests of the State, close their eyes upon the adoption of those measures of sanitary reform, which would diffuse the blessings of health throughout the entire community.

A more correct estimate of the health of our city may, perhaps, be obtained by confining the calculations to deaths reported from actual disease. For this purpose, it will be required to exclude those recorded under the following heads:—

Casualties	118	Debility	378
Burns and scalds	37	Fracture	20
Concussion of brain	7	Malformation	10
Exposure	5	Old age	195
Drowned	134	Stillborn	557
Poison	2	Unknown	291
Strangulation	1	Wounds	1
Suffocation	9	Heat	1
Suicide	26	Exhaustion	6
Violence	8		
From the country	75	Total	1,881

Deducting this number from the total mortality (10,895), and we shall have left 9,014 deaths from certified diseases, showing that the mortality from accidental and other causes, besides disease, amounted to 17 per cent.

Taking the above total as the true standard, we have only 1 death in every 63 of the population, or 16 in every thousand.

Table II. enumerates the deaths occasioned by those diseases peculiar to the lungs and air-passages. They number 2,961, higher in proportion than those for 1856 by 2.42 per cent., and are equivalent to 28.13 per cent. of the mortality for the year, exclusive of stillborn.

The deaths from hooping-cough are appended to this table; they have been few in number, only 51, a decline of 26 since 1856. The deaths from inflammation of the lungs have increased 14 per cent. and congestion of the lungs 15 per cent. over those for the previous year, while inflammation of the bronchi have lessened 16 per cent., and croup 2 per cent.

This variation does not necessarily indicate less disease, but is rather an evidence that the spongy tissue of the lungs has been more liable to fatal attacks of inflammation than the lining membrane of the tracheal or bronchial passages.

Thirty-three deaths, however, are assigned to catarrh and nine to influenza; the former of these should have been with more propriety charged to bronchial inflammation. The latter may have been sporadic cases of influenza, and are, perhaps, deserving of a distinct notice.

While the ordinary inflammations of the air-passages, as coryza, catarrh, or bronchitis, have been unusually prevalent in a mild form during the last fall and first winter months, we have not been advised of the appearance of influenza in an epidemic shape; hence the deaths referred to may have been only the usual catarrhal inflammations in an aggravated form.

The deaths from croup amount to 256, or 8 per cent. of the mortality from affections of the respiratory organs, and represent a large proportion of the deaths from diseases in children between the ages of one and ten years, equal to 8.91 per cent.

Consumption of the lungs, inflammation, congestion and disease of the lungs make up 75 per cent. of the deaths from diseases of the lungs and respiratory passages.

In the table (III.) we have prepared in a separate form the annual mortality from consumption of the lungs, designating the sexes and showing the proportion of deaths for each decennial period.

The various points of interest in the character of this fatal scourge to the medical historian; its etiology, nature, pathology and treatment, but especially in all that refers to its mortality statistics from year to year in this locality, render it in our judgment deserving of a more particular notice.

No one disease on record in modern times and under ordinary circumstances,

sweeps off as many of the human family as pulmonary consumption. The deaths in this city alone, for the last thirty years, have reached the enormous sum of 24,734; and, according to the statistics of other large cities north of us on the Atlantic slope, we are more highly favoured than either of them, in point of locality, for consumptive patients; while, for nearly one-third of the present century, every day on an average has chronicled 2,258 victims for the grave from this fruitful source of death. And its insidious, though certain work, is still progressing.

During the last year, 1857, the deaths were 1,544, showing an increase of 1.40 per cent. over those for 1856, and reaching a higher point than those of any former year on record by 9.40 per cent.

More than half, or 52.14 per cent., of all the deaths from diseases of the lungs and respiratory passages were from consumption.

Towards the annual mortality from all causes it contributed 14.17 per cent., an increase of nearly 2 per cent. over 1856.

The ratio of deaths to the population was as 1 in every 372.40, and 1 in 2.68 to each thousand.

From every period of life, even within the first year of infancy up to old age, it claims its subjects. The highest mortality in any one decennial period, between 20 and 30, reached 458; the next highest, between 30 and 40, was 350. These rates correspond with the statistics of other cities, and with the observations of writers generally, as to the influence of certain periods of life upon the fatality of consumption.

The first five years of infantile life chronicles 108 deaths from this disease, and had we a more particular pathological system of certifying as to the causes of death, this number would in all probability be increased, from the numerous deaths in children that are now assigned to marasmus and debility.

December furnishes the highest number of deaths from consumption, viz., 172, and April the next highest, 165. The lowest number, 103, is assigned to November, and the next minority, 105, to May.

In our former annual statistics, the deaths in females exceeded those in males by a sensible percentage. In these, however, they are nearly equal, the males 768, the females 776, a difference of eight only in favour of the females.

Herewith we append a table of the statistics of consumption for the last six years, in continuation of Dr. Condie's table, calculated for a period of twenty-six years, and published in the summary of the *Transactions* of the College (N. S., vol. i. p. 261). We have constructed this table upon a similar basis; that is, making the calculations upon the absolute deaths from disease instead of the aggregate mortality.

The results of the computation by this method will not be found so favourable, during the past six years, for the decrease of consumption in our city, as the tables of Dr. Condie show for an earlier series of years. Nor will they present the same favourable estimates as if calculated upon the total of

deaths; which plan we have adopted elsewhere, and is the one we believe usually pursued by other statisticians in preparing their tables of mortality. The former system, however, furnishes the fairest indication of the truth, and as it is a subject of too much importance to be examined carelessly, and glossed over, we should approach it with strict impartiality in order to secure unbiased facts.

It will be seen that we have introduced several additional columns, one for the population of each year, another for the percentage of deaths from consumption to the annual aggregate mortality, as well as the proportionate number to the total of deaths, that the difference annually may be more readily compared.

Population.	Years.	Total of deaths.	Deaths from external causes, old age, still-born.	Absolute deaths from disease.	Deaths from consumption.	Per cent. of deaths from do. to absolute.	Proportion of deaths from do. to absolute.	Per cent. of deaths to aggregate mortality.	Proportion to aggregate mortality.
409,000	1852	10,155	1532	8,623	1182	13.70	1 in 7.29	11.63	1 in 8.58
415,000	1853	9,711	1615	8,096	1246	15.39	1 in 6.41	12.82	1 in 7.79
450,000	1854	11,815	1856	9,959	1378	13.85	1 in 7.22	11.66	1 in 8.50
525,000	1855	10,457	1895	8,562	1327	15.49	1 in 6.45	12.68	1 in 7.88
550,000	1856	12,334	2067	10,267	1501	14.61	1 in 6.83	12.16	1 in 8.21
575,000	1857	10,895	1881	9,014	1544	17.12	1 in 5.83	14.17	1 in 7.05
Increase. 166,000 Per cent. 10.869									
Average		10,892	1807	9,086	1363	15.02	1 in 6.67	12.52	1 in 8
Per cent.				1.864	increase 13.27				

By the act of consolidation, our population, as seen by the table, was greatly increased in 1854. An extensive suburban territory, embracing the entire county, with its several districts, was engrafted upon our city; from this increase the mortuary returns were also gathered and computed. This addition of population, amounting to more than 25,000, would very naturally enlarge the mortality record. We find that during the period of six years, embraced in the table, there was an increase of 166,000 inhabitants, equal to 10.869 per cent.; but the total of deaths from all causes was not materially increased, while the deaths from consumption increased 13.27 per cent.

In 1852, the deaths from consumption to population stood 1 in every 337.56, whereas in 1857 they were 1 in 372.40, making a gain of 1 in every 34.84 in favour of the decrease of consumption in its ratio to population, notwithstanding in 1857 they stood nearly two per cent. higher than in 1856. But we cannot say as much for their ratio to deaths from disease. The average percentage of deaths from consumption to deaths from absolute disease, from 1852 to '57 inclusive, was 15.02 per cent., or 1 in every 6.67; the deaths averaging 9,086. Now, for the six years preceding this period, or from 1846 to 1851 inclusive, according to Dr. Condie's table, while the deaths

from absolute disease averaged 7,254, the percentage of deaths from consumption was 12.60, or 1 in every 8.03 deaths.

Thus it will be perceived that the deaths from consumption have actually increased, in the last six years, 2.42 per cent. over those for the six years preceding. We cannot, therefore, congratulate ourselves that the deaths from consumption are undergoing any favourable change; and, indeed, the results of our comparative table would seem, in some measure, to verify the prediction of the President of this College, at its meeting in January, 1851, in reference to the falling off of the mortality from consumption in 1850. At that period, cod-liver oil was extensively used, and he remarked that its acknowledged effect might only postpone the fatal result, and "consequently the diminution in the deaths from consumption the past year, 1850, be made up in an increased mortality from this source, exhibited in the mortuary tables of some later period."[1]

The deaths in 1857 have been 9.40 per cent. higher than in any former year on record.

In the table (IV.) will be found the deaths from those diseases belonging to the functions and organs of the nervous system. These number 1,792, thus contributing 17.33 per cent. of the yearly mortality. A large proportion of the deaths will be found in children; convulsions and inflammation, congestion and dropsy of the brain—diseases peculiar to infantile life—contribute 1,236, equivalent to 68.97 per cent. of the whole number. To convulsions alone is charged a heavy percentage. This is one of those diseases prominently destructive of life in infancy; the deaths amounted to 556, of which 522 were in children. The first and third quarters of the year bear the heaviest proportions, viz., 141 in the first and 188 in the third. Among the latter, were many, in all probability, that owed their origin to cholera infantum, and, with a correct system of registration, would have been found under that name.

We are of opinion that the term convulsions, as found in our mortuary tables, is by far too frequently made the scape-goat for the sins of other agents in the destruction of infantile life. The term is quite too vague to be relied upon as an idiopathic disease. Very many of the deaths in the record assigned to convulsions we believe to have been the result of dentition, cholera infantum, indigestion, worms, or some pre-existing lesion, the eclampsia constituting a symptom only of the effect of irritation, transmitted to the brain or spinal marrow, instead of an isolated attack of either of those organs; charging to the effect, that which rightfully belonged to the cause.

The diseases of the organs of nutrition furnished 2,236 deaths to make up the total mortality for the year, as will be found in table (V.). This gives 21.62 per cent. of the deaths, exclusive of stillborn.

[1] Transac. College Phys., vol. i., N. S., p. 258.

The deaths from cholera infantum, marasmus, inflammation of the stomach and bowels, dropsy, diarrhœa, and dysentery, amount to 1,895, or 84 per cent. of the whole number.

Cholera infantum, a disease peculiar to large cities, and confined chiefly to the three summer months, or more properly to the third quarter of the year, contributed 534 deaths, less by 139, or 11.51 per cent., than the average deaths from the same cause for the three preceding years. Last year they stood 6 per cent. to the entire mortality; this year but 5 per cent. On the other hand, marasmus, which in many instances, as registered, is the sequelæ of other diseases, has the credit of giving 506 deaths, which is 155, or 17.03 per cent. more than the average for the seven previous years.

The deaths in this table, from those diseases belonging to the zymotic class, the causes for which are looked upon by the sanitarian as preventable, are equal to 38.63 per cent.

We have again occasion to allude to the marked disproportion of the deaths from dropsy to those in former years. They here rate 239, even higher than the previous year (1856), and more than double those for 1854 and '5 combined. The prevalence of scarlet fever during the first quarter of the year may, to some extent, explain the cause, as a large proportion was in children, and the heaviest mortality is represented in the first quarter.

The large mortality from this class of diseases during the third quarter of the year, will not escape notice. They reached 1,198, or more by 160 than the three remaining quarters united, exceeding 53 per cent. of the total. This high rate of mortality will be found to have prevailed for a series of years, must be attributed to the influence of the season upon health, is charged principally to the several bowel complaints, fall heavily upon the younger portion of the population, and is due to those diseases included in the class "zymotic."

The deaths from diseases of the utero-genital organs will be found in table (VI.). They amount to 126; falling below those of the previous year 12.19 per cent. Seventy-seven of these deaths, or 61 per cent., were occasioned by disease of the uterus; those from other causes were trifling.

Puerperal fever rates 49; less than in 1856 by nearly 17 per cent. The highest proportion of this mortality, viz., 33, occurred in the first quarter, or during the coldest period of the year. In the last quarter, when the season was mild, there is but one death recorded.

The mortality from fevers claims a separate table (VII.), in which we have registered the deaths for the year, amounting to 1,048, or 10.13 per cent. of the entire mortality, exclusive of stillborn. This estimate is 2 per cent. less than that for 1856, when the deaths to the entire mortality were 12 per cent.

These returns have been increased nearly two-thirds by the deaths from scarlet fever, which amounted to 704, or 66.22 per cent.

The opening year was commemorated by the continued prevalence of this fatal enemy to children, scarlet fever, which had raged so fearfully during 1856. It seemed unexhausted, and persisted in its depredations upon our infant population until about the close of April, when, having gone through all its phases, it gave evidence of abatement, and by the close of the second quarter, June, its epidemic influence had almost entirely disappeared. From that period, however, until the close of the year, cases were still occurring, many of which were fatal, and to such a degree, as to increase the rate of mortality in children, as shown by the record.

During the last two years of its existence in the city, it has swept off 1,696 of our infant population, which was equivalent to 12.93 per cent. of all the deaths under 15 years, exclusive of stillborn. This mortality, and the lengthened period of the existence of the epidemic, justifies us in the conclusion that it has never been exceeded in this city for violence, extent, or duration by any former epidemic of scarlet fever. Relying upon the estimate of Dr. Tweedie, that 6 per cent. is the medium of deaths to cases, there could not have been less than 28,226 cases of the disease within our city during the two years of its prevalence.

The deaths from typhoid and typhus fevers have conjointly fallen off 13.23 per cent. since 1856. Nor have these fevers prevailed in as severe forms as in previous years. Assuming a milder type, they have yielded more readily to treatment. There are two deaths recorded from enteric fever, two from continued and nine from nervous fever, all of which should have been classed with typhoid fever according to the nomenclature of Dr. Wood.

Measles contributed 66 deaths for the year, as seen in table (VIII.); less by one-half than the previous year. On a former occasion we alluded to the alternate elevation and depression of the deaths from measles from year to year since 1850. Upon further examination, we find a somewhat similar oscillation in alternate years since 1840. In only two years of this period, embracing 18 years, did they rise above 100. In 1841, they were 119, and in 1856, 141, the maximum mortality. The minimum was 1, in 1843.

The highest rate of mortality for 1857 was, in the first or winter quarter, 53, when it fell suddenly to 11 in the second quarter; and in the third quarter it fell still lower, to 2. The fourth quarter registered none.

The winter and spring furnished the greatest amount of mortality, and this rate agrees with all other statistics.

In the next group, table (IX.), will be found the mortality from those causes which have proved most fatal during the year. Ninety being fixed as the minimum number.

The fluctuations in this table compared with the deaths in 1856, in the second column, show a favourable result for the year. Of the thirty-three causes named, 21 have fallen below those for 1856 in numbers, while the remainder, 11, have increased.

Consumption of the lungs, the great destroyer of life, supplies the maximum mortality in the list, and stands 37 per cent. above the next highest, scarlet fever, which rates 704. Stillborn 557, and convulsions 556, occupy the third position in the scale, followed closely by cholera infantum 534, while marasmus 506, and inflammation of the lungs 504, conclude the list of causes for death above five hundred.

The deaths from "diseases of the heart," a very general term, embracing both functional and organic derangement, present a considerable increase over those of 1856, or any former year, equal in this case when compared with the previous table to 10 per cent. The deaths from "drowned" also exhibit an increase of 11 per cent.

Table X. furnishes a numerical analysis of the deaths for the year. Exhibits the monthly mortality and the stillborn, with the sexes in both cases; also the number of deaths at fifteen distinct periods of life with the percentages calculated for each to the total of deaths, exclusive of stillborn.

Of the entire mortality there were 5,873 males, and 5,022 females, bearing the proportion of 53.91 per cent. of the former to 46.09 per cent. of the latter, an excess of 7.82 per cent. of the males. In the preceding year, 1856, the excess was only 3.11 per cent.

The premature and stillborn deaths amounted to 557, or 5.11 per cent. of the mortality, which is a more favourable estimate than the average for the seven previous years, which gives 5.21 per cent. The highest mortality of premature and stillborn children was, in September, 65. The lowest, 36, was in May. The excess of stillborn children was in males, and was greater than in any former year, amounting to 123 or 22.08 per cent.

From this table we also learn that the deaths under one year, exclusive of stillborn, were 2,590, or 25.05 per cent., that up to five years they amounted to 48.05 per cent. Between five and fifteen only 6.54 per cent.; from fifteen to forty 22.13 per cent., from which decennial period there is a gradual diminution of the rates.

By this analysis it will be observed that the mortality was highest in children under one year of age, amounting to more than 50 per cent. of all the deaths within the first half decade of life, or five years. In adult life that decade between 20 and 30 years shows the greatest percentage of deaths of any other, amounting to 9.72 per cent.

The heaviest monthly mortality occurred in July, 1,162; of which 52.66 per cent. was under five years; the next highest was in August, 1,146, of which, also, 58.17 per cent. was under five, a higher infant mortality by 5.51 per cent. than in July. January gave 1,140 deaths, and of these 49.64 per

cent. were under five years, an unusually large percentage of infant mortality occasioned by the deaths from scarlet fever, which amounted to 18.34 per cent. of the monthly mortality. June contributed the lowest rate of deaths, 635, and November the next, 651.

Viewing the returns of mortality with special reference to the different seasons of the year, they indicate that the two summer months, July and August, and the second winter month, December, with the spring month, April, have been most fatal to human life. The most favourable to life have been May, June, October, and November.

It has been so frequently remarked that the value of vital statistics depends upon their accuracy, that the opinion has ripened into a sanitary aphorism. The radical defects of our present imperfect system, and the scanty resources for procuring correct information, debar us the full advantage of this wholesome truth.

In the absence of a registration act, which would apply to the entire State, we never can have the vital statistics of Pennsylvania. Even the fragmentary statistics of births and deaths, which apply exclusively to our own city, are so imperfectly furnished, that they are, at the best, only an approximation to accuracy, not to mention the very meagre character of the tabular form required to be registered.

Every one interested in the collection and preservation of vital statistics, as well as those who can appreciate their value, must regret that we are not living under the guidance of a more complete and enlightened code of laws, both registration and sanitary, applicable to the prevention of disease and the prolongation of life, or that those we already possess are not more zealously administered.

As far as the general health law of 1818 applies to our city we have no serious complaint to offer. It contains ample provision for sanitary protection from both foreign and local sources of disease, if the conditions were strictly carried out. But it is to the indefinite manner in which this law is enforced that in common with others we make exception. This laxity is either the result of ignorance, or an erroneous view of the responsible duties imposed upon those to whom is confided the sanitary protection of the citizens, as well as the improvement of the public health.

A change in this department of our city government is as necessary as a registration act for the State. Both are imperiously demanded. The former as the application of recent events has made singularly clear to the public mind, needs revision. Like that of a neighbouring city, it has become so tarnished, so perverted, that it is "a by-word and reproach among all classes of citizens." The alone cause for this degeneracy is the too frequent practice of mingling science and humanity with politics, and of conferring responsible places "merely as the rewards of party service to men no way qualified by habits of

observation and study for the positions they occupy." (*Newman's Reports San. Police of Cities*, p. 44.)

The importance of the latter, a general registration act, we have on former occasions commended, and shall continue to make it one of the cherished objects of our public offerings, until we secure for it the fostering care of the State. In our estimation it possesses claims for the benefit of legislative favour that far outweigh those numerous interests that are ever receiving the consideration and patronage of government. Its value to the prosperity of the State cannot be computed. As a source of happiness to the people it knows no equal; and as a measure for the improvement of health and the prolongation of life, the experience of other countries guarantees its value.

The mission of the intelligent physician is not confined alone to the cure of disease. The preservation of health, and the improvement of our race, lay claim to a large share of his professional labours; hence we regard it as a principle incontrovertible, that the true aim of the medical man, his highest, noblest, most exalted, and truly philanthropic vocation, is to avert those evils, both sanitary and moral, physical and mental, within reach of science, that are destructive to health and dangerous to life; and in this extended field, where the morbid seeds of sickness are sown broadcast, claim his victory over disease, and his triumph over death.

Entertaining these views, we would, in conclusion, most earnestly invite the attention of the College to another trial of their faith, and in an associated effort with the State Medical Society, endeavour to secure the enactment of a well-defined and generally approved law, for a State registration of births, marriages, and deaths.

TABLE I.—*Mortality for the year* 1857, *Collated from*

DISEASES.	FIRST QUARTER, Commencing January 3, 1857.									SECOND Commencing					
	Jan.		Feb.		March.		Adults.	Minors.	Total.	April.		May.		June.	
	M.	F.	M.	F.	M.	F.				M.	F.	M.	F.	M.	F.
Abscess	..	3	..	1	1	2	7	..	7	5	..	2	2	2	2
" liver	..	..	..	..	1	..	..	1	1	..	..	..	..	..	..
Albuminuria	..	..	1	..	..	..	1	..	1	2	..	1	..	1	..
Anæmia	2	..	1	1	1	..	2	3	5	..	..	..	..	..	..
Anasarca	..	..	..	..	1	..	1	..	1	..	..	..	..	2	..
Aneurism	1	..	..	..	..	..	..	1	1	..	..	..	..	..	..
" of the aorta	..	..	1	..	..	..	1	..	1	..	..	..	..	..	..
Angina pectoris	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..
Apoplexy	6	3	5	6	7	5	29	3	32	10	8	5	1	5	4
Asphyxia	4	1	..	3	1	..	1	8	9	1	..	..	1	1	..
Asthma	1	3	3	..	2	2	7	4	11	..	3	..	..	1	..
Cachexia	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Cancer and scirrhus	1	6	3	5	5	9	27	2	29	1	7	2	3	3	6
" of the stomach and bowels	2	..	2	1	..	..	4	1	5	1	..	..	..	..	..
" " liver	..	..	..	..	..	1	1	..	1	..	..	..	..	..	..
" " uterus	..	1	..	2	..	..	3	..	3	..	..	..	..	..	..
Cancrum oris	3	2	..	..	..	3	..	8	8	..	1	..	..	..	..
Caries	1	..	..	..	..	1	1	1	2	..	..	..	..	1	..
" of the spine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Carbuncle	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Catarrh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Casualties	4	1	6	2	6	2	16	5	21	5	..	5	2	6	1
Burns and scalds	2	2	2	1	4	3	9	5	14	5	..	3	..	..	1
Drowned	..	..	..	..	3	..	2	1	3	6	..	11	..	23	4
Exposure	1	..	1	1	1	1	3	1	4	..	..	..	..	..	..
Fracture	..	..	1	..	1	..	2	..	2	..	..	..	..	..	..
" of leg	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" pelvis	..	..	1	..	..	..	1	..	1	..	..	..	..	..	..
" skull	2	..	1	1	..	..	2	2	4	..	..	..	..	..	..
" spine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Neglect	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poisoning	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
Strangulation	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Suicide	1	..	1	1	..	1	4	..	4	3	1	3	2	..	..
Suffocation	..	..	1	1	2	..	..	4	4	..	1	..	..	..	3
Violence	2	..	1	..	1	..	4	..	4	2	..	..	..	..	1
Cholera asphyxia	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..
" infantum	1	..	1	..	..	..	..	2	2	..	1	..	1	3	5
" morbus	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Chorea	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Chlorosis	..	..	..	1	..	..	..	1	1	..	..	..	..	..	..
Cirrhosis	..	..	..	..	1	..	1	..	1	1	..	..	..	..	..
Childbed	..	..	1	..	1	2	..	2	2	..	..	..	..	..	..
Colic	..	1	..	..	2	..	2	1	3	..	1	..	1	..	..
Coma	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..
Concussion of the brain	2	..	2	..	..	..	3	1	4	1	..	..	..	2	..
Congestion	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
" of the brain	13	9	9	9	14	5	25	34	59	13	4	7	3	11	6
" " liver	..	1	1	..	1	..	2	1	3	..	..	..	..	..	..
" " lungs	2	4	4	6	6	7	8	21	29	10	8	5	3	1	2
" " stomach and bowels	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..
Consumption of bowels	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" lungs	59	68	63	66	76	75	327	80	407	89	76	50	55	40	49
Convulsions	30	23	29	20	19	20	6	135	141	34	24	17	17	14	15
" puerperal	..	1	1	..	..	..	1	..	1	..	..	..	..	..	..
Cramp	1	1	1	1	..	..	1	3	4	..	1	..	..	..	..
Croup	20	22	17	12	14	4	1	88	89	14	14	12	7	5	13
Coryza	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Coup de soleil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Coxalgia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cyanosis	4	1	1	..	1	1	..	8	8	..	..	..	..	..	..
Debility	18	16	18	12	12	15	47	44	91	16	10	11	9	19	10
Diabetes	2	1	1	..	..	..	3	1	4	..	1	..	..	..	1
Diarrhœa	2	4	..	2	3	1	9	3	12	6	2	3	..	3	4
Disease of the bladder	..	..	..	..	1	..	1	..	1	..	..	..	..	..	..
" brain	9	6	6	3	4	5	8	25	33	9	1	..	..	3	2
" chest	..	..	2	..	..	2	2	2	4	1	..	1	..	..	..
" ear	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
" heart	10	7	10	5	6	11	29	20	49	12	5	7	5	8	10
" hip	..	..	1	..	..	..	..	1	1	..	..	..	1	..	..
" kidneys	1	1	1	..	..	..	2	1	3	1	1	..	..	..	..
" mouth	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Returns made to the Health Office. By WILSON JEWELL, M. D.

QUARTER, March 28, 1857.			THIRD QUARTER, Commencing June 27, 1857.									FOURTH QUARTER, Commencing October 3, 1857.									Total for the year.
			July.		Aug.		Sept.					Oct.		Nov.		Dec.					
Adults.	Minors.	Total.	M.	F.	M.	F.	M.	F.	Adults.	Minors.	Total.	M.	F.	M.	F.	M.	F.	Adults.	Minors.	Total.	
9	4	13	1	1	1	4	..	2	6	3	9	..	1	..	1	1	3	4	2	6	35
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
4	..	4	1	..	..	1	..	..	2	..	2	..	..	..	..	..	..	..	..	..	7
..	..	..	2	1	1	1	..	..	3	2	5	..	..	..	..	..	..	..	..	..	10
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
1	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
26	7	33	6	2	5	2	9	2	26	..	26	2	5	2	3	6	6	23	1	24	115
..	3	3	2	..	..	..	..	1	..	3	3	..	..	..	..	..	..	..	..	..	15
3	1	4	1	1	..	1	2	2	3	4	7	3	3	1	..	4	..	11	..	11	33
1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
20	2	22	3	6	3	5	3	11	26	5	31	2	8	..	6	4	6	25	1	26	108
1	..	1	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	7
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	1	4
..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9
..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3
1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	..	..	..	1	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	1
..	..	..	..	..	..	..	..	..	..	..	..	3	4	4	1	10	11	1	32	33	33
16	3	19	11	3	3	1	13	4	25	10	35	9	7	4	5	15	3	24	19	43	118
3	6	9	1	2	..	2	..	..	..	5	5	1	1	..	..	2	5	2	7	9	37
24	20	44	23	2	19	2	20	4	43	27	70	3	..	7	1	6	..	15	2	17	134
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
..	..	..	..	..	..	..	4	..	3	1	4	..	1	2	..	2	..	3	2	5	11
..	..	..	..	..	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	1
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	..	..	1	..	1	..	..	..	1	1	2	..	..	..	..	..	..	..	..	..	6
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	1
..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	1	1
2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
9	..	9	4	..	1	..	3	2	10	..	10	..	..	2	1	..	..	3	..	3	26
..	4	4	..	1	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	9
3	..	3	..	..	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	8
2	..	2	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	3
..	10	10	91	79	136	119	51	32	..	508	508	6	3	4	1	..	..	..	14	14	534
1	..	1	1	2	3	2	..	1	3	6	9	..	..	..	..	..	..	..	..	..	10
1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
1	..	1	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	3
..	..	..	..	2	..	..	..	1	3	..	3	..	1	..	1	..	..	2	..	2	7
1	1	2	..	..	..	1	..	..	1	..	1	1	..	..	..	..	..	1	..	1	7
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
3	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7
..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
14	30	44	8	10	15	8	10	9	27	33	60	12	6	4	4	6	6	15	23	38	201
..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	..	2	1	3	6
10	19	29	4	1	3	2	10	9	14	15	29	2	4	9	7	13	10	22	23	45	132
2	..	2	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	1	3
..	..	..	..	..	..	2	1	1	2	2	4	..	..	..	1	..	..	..	1	1	5
302	57	359	72	68	56	61	70	59	294	92	386	65	52	46	57	82	90	326	66	392	1544
8	113	121	38	39	32	25	30	24	12	176	188	16	9	16	17	28	20	8	98	106	556
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	1	1	2	..	1	2	..	..	..	5	5	..	..	..	..	..	..	..	..	..	10
3	62	65	15	3	3	1	7	2	..	31	31	11	8	15	11	16	10	..	71	71	256
..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	..	..	5	..	1	..	..	..	5	1	6	..	..	..	..	..	..	..	..	..	6
..	..	..	..	..	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	1
..	7	7	2	1	4	..	1	..	..	8	8	1	..	2	2	4	2	..	11	11	34
36	39	75	21	14	26	12	20	22	37	78	115	17	13	17	11	19	20	47	50	97	378
2	..	2	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	7
9	9	18	14	8	14	13	11	6	9	57	66	4	5	3	5	4	2	15	8	23	119
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
5	10	15	6	6	5	5	9	6	10	27	37	2	3	1	1	5	3	3	12	15	101
..	2	2	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	7
..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
32	15	47	6	14	11	6	5	8	39	11	50	12	10	11	15	14	14	58	18	76	222
1	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	3
1	1	2	1	..	..	1	..	..	1	1	2	..	..	1	..	..	..	..	1	1	8
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	1	1

TABLE I.—*Mortality*

DISEASES.	FIRST QUARTER, Commencing January 3, 1857.									SECOND Commencing					
	Jan.		Feb.		March.		Adults.	Minors.	Total.	April.		May.		June.	
	M.	F.	M.	F.	M.	F.				M.	F.	M.	F.	M.	F.
Disease of the leg	..	1	..	..	..	..	..	1	1	..	..	..	..	..	..
" liver	..	1	..	1	..	1	1	2	3	2	..	1	..	2	1
" lungs	1	5	2	5	1	4	10	8	18	6	2	2	2	2	..
" ovaries	..	..	..	1	..	1	2	..	2	..	..	..	..	..	..
" skin	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" spine	1	1	1	..	..	..	..	3	3	1	..	..	..	..	..
" stomach and bowels	1	..	1	1	2	..	2	3	5	2	1	..	3	..	..
" throat	..	..	1	..	..	..	..	1	1	1	..	..	..	..	..
" uterus	..	2	..	..	..	..	2	..	2	..	..	..	..	..	..
Dropsy	16	15	18	10	8	9	35	41	76	12	10	11	9	5	10
" abdominal	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..
" of the brain	12	10	14	8	10	4	1	57	58	9	4	7	5	9	6
" " chest	5	..	2	2	4	1	5	9	14	6	..	5	3	1	4
" " heart	..	..	..	1	1	..	1	1	2	..	1	3	..	1	2
" " liver	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dysentery	2	3	3	1	3	3	8	7	15	3	1	3	5	4	2
Dyspepsia	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Eczema	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Effusion on the brain	3	2	5	5	9	6	6	24	30	5	3	2	1	2	..
" chest	..	..	1	..	..	..	..	1	1	2	..	..	..	..	..
" lungs	..	..	..	..	2	2	..	2	..	..	..	..	..	..	..
" spinal marrow	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
Enlargement of the heart	..	..	1	2	4	3	6	4	10	4	2	..	1	..	1
Emphysema	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Empyema	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Epilepsy	2	3	2	2	2	4	7	8	15	1	..	1	..	..	..
Eruptions	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	10	5	3	6	8	3	22	13	35	6	9	4	2	2	5
Exhaustion	2	..	1	..	..	1	1	3	4	2	..	..	..	..	..
Fever	..	..	..	..	1	2	3	..	3	..	..	..	..	..	..
" bilious	1	1	..	..	..	..	2	..	2	3	..	..	..	..	..
" brain	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" congestive	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
" continued	..	..	1	..	..	1	1	1	2	..	..	..	..	..	..
" enteric	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..
" gastric	..	..	2	..	..	..	..	2	2	..	..	..	..	..	1
" hectic or inflammatory	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..
" intermittent	..	..	2	..	1	..	2	1	3	..	2	..	..	..	..
" nervous	1	1	..	1	..	..	2	1	3	..	..	..	1	..	..
" puerperal	..	10	..	13	..	10	27	6	33	..	1	..	4	..	7
" remittent	..	2	2	1	1	1	4	3	7	1	3	..	1	..	..
" scarlet	113	96	59	67	58	32	7	418	425	39	43	19	16	14	22
" typhoid	9	6	14	3	3	7	25	17	42	6	9	8	9	3	1
" typhus	3	..	1	1	3	..	3	5	8	1	1	1	1	..	1
Fungus hæmatodes	1	..	..	..	..	1	2	..	2	..	..	..	..	..	..
Gangrene	1	..	..	..	..	1	1	1	2	2	..	2	1	..	1
" of lungs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Gout	1	..	..	..	1	..	2	..	2	..	..	..	2	..	..
" of the heart	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hemorrhage	1	..	2	6	2	2	9	4	13	2	2	..	..	..	..
" from the lungs	4	2	..	1	..	1	5	3	8	2	1	2	..	2	..
" " stomach	2	..	..	..	..	..	1	1	2	..	..	..	..	..	..
" " uterus	..	1	..	..	..	1	2	..	2	..	2	..	..	..	..
Hernia	1	..	..	..	..	..	1	..	1	1	1	..	..	..	1
" umbilical	..	..	..	1	..	1	..	1	1	..	..	..	..	..	..
Hooping-cough	2	2	4	2	3	1	..	14	14	..	4	1	2	1	2
Icterus	1	..	..	..	..	3	2	2	4	1	2	2	..	..	..
Inanition	3	7	4	2	2	5	5	18	23	5	1	5	3	3	2
Infanticide	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Inflammation	1	..	1	2	2	1	3	4	7	1	1	..	..	..	1
" of the abdomen	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
" " bladder	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
" " brain	10	10	14	12	8	17	4	67	71	15	8	16	7	3	13
" " bronchi	25	9	6	8	14	10	61	11	72	17	13	7	8	4	4
" " chest	..	..	1	1	..	1	1	2	3	1	..	2	2	..	..
" " heart	1	2	..	1	..	..	4	..	4	2	..	1	..	..	..
" " hip	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
" " kidneys	1	..	1	..	1	..	2	1	3	..	1	2	..	..	..
" " larynx	2	2	..	1	2	3	8	2	10	2	1	..	..	..	..
" " liver	1	1	1	1	..	..	3	1	4	..	2	3	2	3	1
" " lungs	36	34	34	28	24	19	56	119	175	34	43	25	15	11	7
" " peritoneum	1	5	..	5	..	12	20	3	23	1	9	2	1	2	4

for 1857—Continued.

QUARTER, March 28, 1857.			THIRD QUARTER, Commencing June 27, 1857.										FOURTH QUARTER, Commencing October 3, 1857.									Total for the year.
			July.		Aug.		Sept.						Oct.		Nov.		Dec.					
Adults.	Minors.	Total.	M.	F.	M.	F.	M.	F.	Adults.	Minors.	Total.		M.	F.	M.	F.	M.	F.	Adults.	Minors.	Total.	
..	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	1
3	3	6	1	2	1	1	2	1	6	2	8		4	2	3	1	6	..	14	2	16	33
8	6	14	2	1	1	1	..	..	4	1	5		1	4	3	2	4	2	12	4	16	53
..	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	2
..	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	1	1	1
1	..	1	1	..	1	1	..	..	4	4	4		1	..	..	..	..	..	1	..	1	9
3	3	6	..	..	..	..	1	2	1	2	3		..	..	..	..	1	1	2	..	2	16
..	1	1	..	..	..	..	..	..	..	..	..		..	..	1	..	..	..	..	..	..	2
..	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	2
34	23	57	14	7	9	7	4	4	36	9	45		11	8	13	8	13	8	35	26	61	239
2	..	2	..	..	..	..	2	1	4	..	4		..	..	..	..	..	..	..	..	..	6
3	37	40	21	8	10	15	6	6	4	62	66		2	2	2	1	1	1	..	9	9	173
9	10	19	3	2	..	2	2	2	6	5	11		..	..	..	1	2	1	1	3	4	48
4	3	7	1	..	3	5	1	1	7	4	11		..	..	..	1	..	..	..	1	1	21
..	..	..	..	..	1	..	..	..	1	..	1		..	..	..	..	..	..	..	..	..	1
9	9	18	19	21	35	22	28	19	52	92	144		5	5	3	3	1	4	10	11	21	198
1	..	1	..	..	..	..	1	..	..	1	1		..	..	..	..	..	..	..	..	..	2
..	1	1	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	1
3	10	13	5	5	5	11	6	7	5	34	39		..	..	2	1	5	2	3	7	10	92
1	1	2	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	3
..	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	1	1	1	1	2	4
1	..	1	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	1
7	1	8	1	1	..	..	..	..	2	..	2		..	..	..	..	..	..	..	..	..	20
..	1	1	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	1
..	1	1	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	1
1	1	2	1	..	..	..	..	..	1	1	2		..	..	..	..	..	..	..	..	..	18
..	..	..	1	..	..	..	..	..	1	..	1		..	..	..	..	..	..	..	..	..	1
13	15	28	2	5	..	1	6	1	7	8	15		2	2	3	2	6	2	8	9	17	95
2	..	2	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	6
..	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	3
2	1	3	1	..	4	..	1	1	6	1	7		7	4	..	1	..	1	8	5	13	25
..	..	..	..	1	..	..	..	..	..	1	1		1	..	..	..	1	..	..	1	1	2
..	1	1	..	..	..	..	1	2	1	2	3		..	..	1	..	..	..	1	..	1	5
..	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	2
2	..	2	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	2
..	1	1	..	1	..	..	..	..	1	..	1		..	..	..	..	..	..	..	..	..	4
1	1	2	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	2
1	1	2	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	5
1	..	1	..	..	..	..	..	..	..	..	..		..	3	..	..	2	..	4	1	5	9
10	2	12	..	..	..	..	3	..	3	..	3		..	..	..	..	..	1	1	..	1	49
2	3	5	..	..	..	..	..	1	..	4	4		3	..	1	2	..	1	5	2	7	23
1	152	153	18	20	2	3	6	7	1	59	60		14	4	9	6	14	19	3	63	66	704
18	18	36	6	8	6	8	8	9	29	16	45		12	8	5	8	8	11	36	16	52	175
4	1	5	1	..	3	..	4	3	8	3	11		..	1	1	..	8	4	10	4	14	38
..	..	..	..	..	..	..	..	..	..	..	..		..	1	..	..	..	..	1	..	1	3
4	2	6	..	..	1	..	..	..	1	1	2		..	..	1	..	..	..	1	..	1	10
1	..	1	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	1
2	..	2	..	..	..	..	1	1	1	..	1		..	..	..	..	..	..	..	..	..	5
..	..	..	..	..	1	..	..	..	1	..	1		..	..	..	..	..	..	..	..	..	1
3	1	4	..	3	1	3	2	1	7	3	10		4	1	3	5	3	..	13	3	16	43
6	1	7	..	..	..	..	2	..	1	1	2		..	1	..	..	..	..	1	..	1	18
..	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	2
1	1	2	..	..	..	1	..	..	1	..	1		..	..	..	..	..	..	..	..	..	5
3	..	3	..	2	1	..	..	..	2	1	3		..	1	..	..	..	..	1	..	1	8
..	..	..	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	1
..	10	10	2	..	5	3	1	2	..	13	13		4	6	2	1	1	..	..	14	14	51
1	4	5	..	..	..	2	..	..	2	..	2		..	..	..	..	..	..	..	..	..	11
2	17	19	7	..	4	1	5	5	4	18	22		3	1	7	2	1	3	3	14	17	81
..	1	1	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	1
..	3	3	1	..	..	..	..	..	..	1	1		..	..	..	..	..	..	..	..	..	11
..	1	1	..	..	..	..	..	..	..	..	..		..	..	..	..	..	..	..	..	..	1
1	..	1	1	1	..	..	..	..	3	..	3		..	..	..	..	4	1	3	2	5	9
14	48	62	21	16	18	18	16	16	21	84	105		18	15	11	7	9	8	24	44	68	306
14	39	53	4	5	3	5	3	..	9	11	20		7	7	4	7	6	3	10	24	34	179
1	4	5	1	2	2	..	..	1	..	6	6		1	..	..	..	..	1	..	2	2	16
1	2	3	..	..	1	..	..	..	1	..	1		..	..	..	..	..	..	..	..	..	8
..	1	1	..	..	..	..	..	..	..	1	1		..	..	..	..	..	..	..	..	..	1
2	1	3	..	..	1	..	..	..	1	..	1		..	..	..	..	..	..	..	..	..	7
..	3	3	..	..	..	..	..	1	..	1	1		..	..	..	..	..	..	..	..	..	14
6	5	11	1	..	3	1	2	3	8	2	10		..	..	..	..	..	..	..	..	..	25
52	83	135	18	15	12	7	6	7	24	41	65		12	14	32	35	22	14	56	73	129	504
13	6	19	2	4	..	4	..	..	6	4	10		1	..	..	1	1	1	4	..	4	56

TABLE I.—*Mortality*

DISEASES.	FIRST QUARTER, Commencing January 3, 1857.									SECOND Commencing					
	Jan.		Feb.		March.		Adults.	Minors.	Total.	April.		May.		June.	
	M.	F.	M.	F.	M.	F.				M.	F.	M.	F.	M.	F.
Inflammation of the pleura	..	..	..	..	..	1	..	1	1	5	4	3	3	..	2
" " spine	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..
" " stomach and bowels	11	10	14	12	12	11	32	38	70	16	11	4	10	15	9
" " throat	..	1	..	1	..	..	..	2	2	1	..	..	..	..	1
" " tonsils	1	..	..	4	..	..	2	3	5	..	..	..	1	..	1
" " trachea	3	..	1	..	..	..	..	4	4	2	..	2	1	..	..
" " uterus	..	..	..	2	..	3	5	..	5	..	1	..	..	..	1
Influenza	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..
Intemperance	2	1	..	..	..	1	4	..	4	2	..	1	3	..	1
Intussusception	..	..	2	..	..	1	1	2	3	..	..	..	..	1	..
Malformation	1	..	..	..	..	1	..	2	2	1	..	1	1	..	2
" of spine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mania	..	1	1	1	..	..	3	..	3	1	1	..	1	1	..
Mania à potu	3	..	4	..	1	..	8	..	8	12	2	1	1	2	1
Marasmus	11	18	18	13	12	16	3	85	88	19	15	20	13	8	11
Measles	13	11	14	8	4	3	..	53	53	2	3	3	2	1	..
Mortification	..	..	..	..	..	1	1	..	1	1	1	2	..	..	2
Obstruction of the bowels	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Old age	2	11	5	8	9	10	45	..	45	4	8	6	12	6	4
Ossification of heart	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ozena maligna	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Palsy	3	10	3	2	2	1	20	1	21	6	3	4	3	7	3
Perforation of the bowels	..	..	1	..	..	..	..	1	1	..	..	..	..	..	..
Phlegmasia dolens	..	..	1	..	..	..	1	..	1	..	..	..	..	..	..
Purpura	..	1	..	..	..	..	..	1	1	..	..	1	..	..	..
Pyæmia	..	..	1	..	..	..	1	..	1	..	..	..	..	..	..
Rickets	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Rheumatism	2	..	1	2	..	1	3	3	6	1	..	1	..	..	2
Rupture of bloodvessels	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
" urethra	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..
Scrofula	6	1	6	4	1	5	1	22	23	2	1	3	2	1	1
Scurvy	..	..	..	..	..	..	..	..	..	1	..	1	1	1	..
Smallpox	7	5	5	4	4	7	8	24	32	3	9	5	3	4	2
Softening of the brain	..	1	1	..	1	..	2	1	3	2	1	2	1	1	..
" " heart	1	..	..	1	..	..	1	..	1	..	..	..	..	..	..
Sore mouth	..	..	..	1	..	..	..	1	1	..	1	..	..	..	..
" throat	..	..	..	1	1	..	..	2	2	..	1	..	1	2	3
Stillborn	25	17	24	23	22	18	..	129	129	32	17	23	13	20	20
Suppression of urine	..	..	1	..	..	..	1	..	1	..	1	..	..	..	..
Syphilis	..	..	1	..	..	..	..	1	1	..	1	..	..	..	..
Tabes mesenterica	2	1	3	1	..	..	2	5	7	..	2	..	..	..	2
Teething	..	..	4	1	2	..	..	7	7	2	1	..	..	..	..
Tetanus	..	..	..	..	1	..	1	..	1	2	1	..	..	1	1
Trismus	..	..	..	..	1	1	1	1	2	..	..	..	..	..	..
Tumour	1	..	..	2	..	..	2	1	3	..	1	1	..	..	1
" on neck	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..
" ovarian	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Ulceration	..	..	..	..	..	1	..	1	1	..	1	..	..	..	..
" of leg	..	..	..	1	..	..	1	..	1	..	..	..	..	..	..
" scalp	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" stomach and bowels	..	1	2	..	..	..	1	2	3	..	..	..	..	1	..
" throat	1	..	1	..	..	..	..	2	2	..	..	..	..	..	..
" uterus	..	1	..	..	..	..	1	..	1	..	..	..	..	..	..
Unknown	21	15	11	10	16	12	43	42	85	25	15	8	14	11	5
Varioloid	2	1	..	..	1	..	..	4	4	..	..	3	..	..	..
Wounds	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Worms	..	..	..	1	..	..	..	1	1	..	..	..	1	..	..
Totals	605	534	526	469	465	443	1185	1857	3042	602	468	380	313	315	320
From the almshouse	53		51		49		..	..	153	72		53		45	
From the country	6		3		5		..	..	14	7		4		8	
People of colour	45		48		46		..	..	139	56		43		48	

for 1857—Continued.

QUARTER, March 28, 1857.			THIRD QUARTER, Commencing June 27, 1857.									FOURTH QUARTER, Commencing October 3, 1857.									Total for the year.
			July.		Aug.		Sept.		Adults.	Minors.	Total.	Oct.		Nov.		Dec.		Adults.	Minors.	Total.	
Adults.	Minors.	Total.	M.	F.	M.	F.	M.	F.				M.	F.	M.	F.	M.	F.				
14	3	17	..	..	1	..	2	1	4	..	4	..	1	3	..	1	..	4	1	5	27
1	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
36	29	65	16	21	13	17	14	17	44	54	98	12	14	6	10	10	14	38	28	66	299
..	2	2	..	1	..	..	..	..	..	1	1	..	..	1	..	..	..	..	1	1	6
..	2	2	1	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	8
..	5	5	..	1	..	..	..	..	..	1	1	1	..	..	..	..	..	..	1	1	11
2	..	2	..	..	..	1	..	..	..	1	1	..	..	..	..	..	..	..	..	..	8
1	1	2	..	..	..	..	4	3	..	7	7	..	..	..	..	..	..	..	..	..	9
7	..	7	..	1	..	1	3	2	7	..	7	..	..	..	..	..	..	..	..	..	18
1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
..	5	5	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	2	2	9
..	..	..	..	..	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	1
4	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7
19	..	19	8	2	5	1	1	..	17	..	17	8	3	2	1	4	..	18	..	18	62
9	77	86	26	30	48	41	43	43	3	228	231	15	15	15	14	24	18	4	97	101	506
..	11	11	..	..	..	2	..	..	..	2	2	..	..	..	..	..	..	..	..	..	66
4	2	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7
..	1	1	..	..	..	1	..	..	1	..	1	..	..	..	..	..	..	..	..	..	2
40	..	40	5	14	11	17	3	11	61	..	61	7	12	7	9	6	8	49	..	49	195
..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	1	1
..	..	..	..	..	..	1	..	..	1	..	1	..	..	..	..	..	..	..	..	..	1
26	..	26	8	6	2	5	5	3	26	3	29	2	1	5	5	3	..	16	..	16	92
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	2	2
2	2	4	3	..	1	..	..	..	3	1	4	..	..	..	..	1	1	..	1	15	15
1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
2	8	10	2	2	1	2	2	4	4	9	13	..	..	1	..	4	..	1	4	5	51
4	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
4	22	26	4	1	..	..	..	..	..	5	5	..	..	..	..	1	1	..	2	2	65
3	4	7	..	1	..	..	..	..	1	..	1	1	1	..	..	1	..	3	..	3	14
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	1	1	..	..	..	2	..	..	..	2	2	..	..	..	..	..	..	..	..	..	4
..	7	7	..	1	..	..	..	..	..	1	1	..	..	2	..	..	1	..	3	3	18
..	125	125	37	26	23	16	42	23	..	167	167	30	11	25	14	37	19	..	136	136	557
..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	2	1	3	5
..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	3
..	4	4	3	6	1	3	6	5	..	24	24	1	2	1	3	2	..	2	7	9	44
..	3	3	1	1	2	2	..	..	..	6	6	..	..	..	..	1	..	..	1	1	17
3	2	5	1	..	1	..	..	..	..	2	2	1	..	1	..	..	1	2	1	3	11
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
2	1	3	..	1	..	..	..	1	2	..	2	..	..	..	..	..	2	2	..	2	10
..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
1	..	1	..	..	..	2	..	..	2	..	2	..	1	3	..	..	..	1	3	4	8
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	1
1	..	1	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	6
..	..	..	..	..	1	1	..	..	1	1	2	..	..	..	..	..	..	..	..	..	2
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
49	29	78	19	14	15	10	4	9	35	36	71	12	11	13	..	18	3	40	17	57	291
..	3	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7
..	..	..	..	..	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	1
..	1	1	..	..	1	..	1	..	..	2	2	..	..	..	..	..	..	..	..	..	4
1069	1329	2398	636	516	610	536	529	432	1100	2169	3269	380	308	346	305	478	369	1073	1113	2186	10890
..	..	170	57		76		44		..	..	177	45		35		56		..	..	136	..
..	..	19	8		8		11		..	..	27	9		4		2		..	..	15	..
..	..	147	51		62		37		..	..	150	29		34		40		..	..	103	..

TABLE I.—*Mortality for* 1857—Continued.

	FIRST QUARTER, Commencing January 3, 1857.						SECOND QUARTER, Commencing March 28, 1857.					
	Jan.	Feb.	March.	Adults.	Minors.	Totals.	April.	May.	June.	Adults.	Minors.	Totals.
Under 1 year	263	265	203	..	..	731	266	166	142	..	..	574
From 1 to 2 years	113	111	107	..	..	331	109	57	43	..	..	209
" 2 to 5 "	231	142	128	..	..	501	125	84	72	..	..	281
" 5 to 10 "	82	70	52	..	..	204	70	42	37	..	..	149
" 10 to 15 "	21	23	20	..	..	64	21	10	14	..	..	45
" 15 to 20 "	26	31	25	..	..	82	23	22	26	..	..	71
" 20 to 30 "	93	95	92	..	..	280	104	67	54	..	..	225
" 30 to 40 "	87	71	71	..	..	229	102	55	73	..	..	230
" 40 to 50 "	59	61	54	..	..	174	85	51	45	..	..	181
" 50 to 60 "	55	48	53	..	..	156	53	48	47	..	..	148
" 60 to 70 "	37	39	41	..	..	117	44	36	42	..	..	122
" 70 to 80 "	43	25	40	..	..	108	45	30	22	..	..	97
" 80 to 90 "	25	11	16	..	..	52	22	18	16	..	..	56
" 90 to 100 "	3	3	6	..	..	12	..	7	1	..	..	8
" 100 to 110 "	1	..	..	..	..	1	1	..	1	..	..	2
Total of monthly mortality	1139	995	908	..	..	..	1070	693	635	..	..	..
Total males for the quarter	..	..	..	..	..	1595	..	..	..	..	..	1298
" females "	..	..	..	..	..	1447	..	..	..	..	..	1100
" adults "	..	..	..	1129	..	..	..	..	..	1069	..	..
" minors "	..	..	..	..	1913	..	..	..	..	..	1329	..
Total for the quarter	..	..	..	..	..	3042	..	..	..	..	..	2398

	THIRD QUARTER, Commencing June 27, 1857.						FOURTH QUARTER, Commencing October 3, 1857.					
	July.	Aug.	Sept.	Adults.	Minors.	Totals.	Oct.	Nov.	Dec.	Adults.	Minors.	Totals.
Under 1 year	449	479	365	..	..	1293	156	177	216	..	..	549
From 1 to 2 years	137	173	161	..	..	471	90	84	108	..	..	282
" 2 to 5 "	89	63	25	..	..	177	41	31	55	..	..	127
" 5 to 10 "	45	29	15	..	..	89	19	11	21	..	..	51
" 10 to 15 "	20	12	16	..	..	48	6	9	12	..	..	27
" 15 to 20 "	36	26	29	..	..	91	24	24	29	..	..	77
" 20 to 30 "	100	88	86	..	..	274	75	62	89	..	..	226
" 30 to 40 "	96	80	81	..	..	257	82	76	89	..	..	247
" 40 to 50 "	61	57	64	..	..	182	66	56	80	..	..	203
" 50 to 60 "	49	39	49	..	..	137	50	44	54	..	..	147
" 60 to 70 "	39	45	39	..	..	123	30	41	43	..	..	114
" 70 to 80 "	22	31	18	..	..	71	27	18	37	..	..	82
" 80 to 90 "	16	19	7	..	..	42	19	13	10	..	..	42
" 90 to 100 "	3	5	6	..	..	14	3	4	3	..	..	10
" 100 to 110 "	..	..	..	..	..	..	..	1	1	..	..	2
Total of monthly mortality	1162	1146	961	..	..	..	688	651	847	..	..	..
Total males for the quarter	..	..	..	..	..	1776	..	..	..	..	..	1204
" females "	..	..	..	..	..	1493	..	..	..	..	..	982
" adults "	..	..	..	1100	..	..	..	..	..	1073	..	..
" minors "	..	..	..	..	2169	..	..	..	..	..	1113	..
Total for the quarter	..	..	..	..	..	3269	..	..	..	..	..	2186

TABLE II.—*Mortality from Diseases of the Lungs and Air-passages.*

DISEASES.	ANNUAL AGGREGATES.			QUARTERS OF 1857.			
	1855.	1856.	1857.	1st.	2d.	3d.	4th.
Abscess, pulmonary	9	1	...	...	...	...	...
Angina pectoris	5	5	1	1	...	...	...
Apnœa	...	1	...	...	...	...	...
Asphyxia	28	28	15	9	3	3	...
Asthma	19	21	33	11	4	7	11
Catarrh	...	...	33	...	...	...	33
Collapse of lungs	...	1	...	...	...	...	...
Congestion of the lungs	82	97	132	29	29	29	45
Consumption, laryngeal	1	1	...	...	...	...	...
" of the lungs	1327	1501	1544	407	359	386	392
Croup	265	268	256	89	65	31	71
Disease of the chest	10	6	7	4	2	...	1
" lungs	33	37	53	18	14	5	16
Dropsy of the chest	48	61	48	14	19	11	4
Effusion on the chest	3	7	3	1	2	...	...
" lungs	7	4	4	2	...	...	2
Emphysema	...	2	1	...	1	...	...
Empyema	...	2	1	...	1	...	...
Gangrene of the lungs	1	...	1	...	1	...	...
Hemorrhage from the lungs	21	28	18	8	7	2	1
Influenza	4	2	9	...	2	7	...
Inflammation of the bronchi	233	250	179	72	53	20	34
" " chest	10	7	16	3	5	6	2
" " larynx	13	34	14	10	3	1	...
" " lungs	442	379	504	175	135	65	129
" " pleura	24	16	27	1	17	4	5
" " trachea	1	9	11	4	5	1	1
Ulceration of larynx	...	2	...	...	...	...	...
Totals	2586	2770	2910	858	727	578	747
Hooping-cough	90	77	51	14	10	13	14
Totals	2676	2847	2961	872	737	591	761
Total mortality, exclusive of stillborn	9869	11722	10338				
Per cent. from diseases of the lungs	26.20	22.77	28.13				
Per cent. from consumption of the lungs	13.45	12.80					

TABLE III.—*Deaths from Consumption of the Lungs, during each Month in the year* 1857, *at fifteen distinct periods of life, with the Sexes designated for each month.*

AGES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Under 1 year . . .	1	6	2	4	5	...	8	3	3	...	...	2	34
From 1 to 2 years . .	2	6	3	5	2	...	3	5	8	2	2	4	42
" 2 to 5 " . .	3	2	5	3	6	3	5	...	...	3	...	2	32
" 5 to 10 " . .	1	...	3	...	1	...	2	2	4	...	2	...	15
" 10 to 15 " . .	...	4	3	1	1	1	1	2	5	2	3	2	25
" 15 to 20 " . .	11	11	17	4	10	11	14	10	17	9	16	17	147
" 20 to 30 " . .	43	42	40	52	29	27	47	37	33	40	23	45	458
" 30 to 40 " . .	25	29	35	44	23	19	29	30	27	29	21	39	350
" 40 to 50 " . .	19	15	17	25	13	10	16	12	14	12	17	33	203
" 50 to 60 " . .	14	7	12	16	7	14	8	11	13	9	11	15	137
" 60 to 70 " . .	6	5	10	6	3	3	5	3	4	8	7	10	70
" 70 to 80 " . .	1	2	3	4	3	1	2	2	1	3	1	3	26
" 80 to 90 " . .	1	...	1	1	2	...	...	...	...	...	...	...	5
" 90 to 100 " . .	...	...	...	...	...	...	...	...	...	...	...	...	...
" 100 to 110 " . .	...	...	...	...	...	...	...	...	...	...	...	...	...
Male	59	63	76	89	50	40	72	56	70	65	46	82	768
Female	68	66	75	76	55	49	68	61	59	52	57	90	776
Monthly totals . . .	127	129	151	165	105	89	140	117	129	117	103	172	1544
Quarterly totals . . .	407			359			386			392			1544

TABLE IV.—*Mortality from Diseases of the Nervous System.*

DISEASES.	ANNUAL AGGREGATES.			QUARTERS OF 1857.			
	1855.	1856.	1857.	1st.	2d.	3d.	4th.
Abscess of the brain	2	2	...	...	...	...	...
Apoplexy	110	123	115	32	33	26	24
Chorea	...	2	1	...	1	...	...
Catalepsy	...	1	...	...	...	...	...
Coma	2	2	1	1	...	...	...
Compression of the brain	3	8	...	...	...	...	...
Concussion of the brain	1	...	7	4	3	...	...
Congestion of the brain	175	177	201	59	44	60	38
Convulsions	626	603	556	141	121	188	106
Coup de soleil	...	2	6	...	...	6	...
Cramp	...	11	10	4	1	5	...
Disease of the brain	97	107	100	33	15	37	15
Dropsy of the brain	254	242	173	58	40	66	9
Effusion of the brain	72	94	92	30	13	39	10
Epilepsy	25	24	18	15	2	1	...
Hysteria	...	3	...	...	...	...	...
Inflammation of the brain	288	329	306	71	62	105	68
" " tympanum	1	...	...	...	...	...	...
Irritation of brain and spinal marrow	1	...	...	...	...	...	...
Mania or insanity	17	12	7	3	4	...	...
Mania à potu	25	43	62	8	19	17	18
Neuralgia	1	1	...	...	...	...	...
Palsy	106	104	92	21	26	29	16
Softening of the brain	20	40	14	3	7	1	3
" " spinal marrow	...	2	...	...	...	...	...
Teething	16	29	17	7	3	6	1
Tetanus	17	13	11	1	5	2	3
Trismus	8	2	2	2	...	...	...
Totals	1866	1976	1791	493	399	588	311
Puerperal convulsions	15	2	1	1	...	...	...
" mania	2	...	...	...	...	...	...
Totals	1883	1978	1792	494	399	588	311
Total mortality, exclusive of stillborn	9869	11722	10338				
Per cent. of total mortality	18.90	16.87	17.33				

TABLE V.—*Mortality from Diseases of some Organs of Nutrition.*

DISEASES.	ANNUAL AGGREGATES.			QUARTERS OF 1857.			
	1855.	1856.	1857.	1st.	2d.	3d.	4th.
Abscess	17	40	35	7	13	9	6
" abdominal	1	...	...	...	...	...	...
" of the liver	2	1	1	1	...	...	...
Cancer of the stomach and bowels	18	4	7	5	1	1	...
Cholera	33	16	3	...	2	1	...
" infantum	566	722	534	2	10	508	14
" morbus	29	35	10	...	1	9	...
Cirrhosis of the liver	7	6	3	1	1	1	...
Colic	8	17	7	3	2	1	1
Constipation	2	3	...	...	...	...	...
Consumption of the bowels	4	3	5	...	...	4	1
Diarrhœa	177	149	119	12	18	66	23
Disease of the liver	25	27	41	7	6	9	19
" stomach and bowels	20	27	17	5	6	3	3
Dropsy	110	213	239	76	57	45	61
" abdominal	31	8	6	...	2	4	...
Dysentery	266	301	198	15	18	144	21
Dyspepsia	1	...	2	...	1	1	...
Gout	4	7	5	2	2	1	...
Icterus	27	21	11	4	5	2	...
Ileus	4	1	...	...	...	...	...
Inflammation of the liver	38	39	25	4	11	10	...
" " peritoneum	54	68	56	23	19	10	4
" " stomach and bowels	187	184	299	70	65	98	66
Intussusception	7	6	4	3	1	...	...
Marasmus	436	484	506	88	86	231	101
Obstruction of the bowels	13	9	2	...	1	1	...
Scrofula	54	61	51	23	10	13	5
Tabes mesenterica	28	36	44	7	4	24	9
Tuberculosis	6	...	...	...	...	...	...
Ulceration of the stomach and bowels	21	15	6	3	1	2	...
Totals	2196	2503	2236	361	343	1198	334
Total mortality, exclusive of stillborn	9869	11722	10338				
Per cent. of total mortality	22.35	21.35	21.62				

TABLE VI.—*Mortality from Diseases of the Utero-Genital Organs.*

DISEASES.	ANNUAL AGGREGATES.			QUARTERS OF 1857.			
	1855.	1856.	1857.	1st.	2d.	3d.	4th.
Albuminuria	6	9	7	1	4	2	...
Amenorrhœa	...	2	...	...	...	...	...
Cancer of mammæ	7	2	...	...	...	...	...
" uterus	18	5	4	3	...	...	1
Childbed	2	2	7	2	...	3	2
Chlorosis	1	2	1	1	...	...	...
Convulsions, puerperal	15	2	1	1	...	...	...
Diabetes	...	...	7	4	2	...	1
Disease of the bladder	1	1	1	1	...	...	...
" kidneys	3	16	8	3	2	2	1
" ovaries	3	1	2	2	...	...	...
" prostate gland	1	1	...	...	...	...	...
" uterus	3	5	2	2	...	...	...
Dropsy, ovarian	1	1	...	...	...	...	...
Fever, puerperal	41	69	49	33	12	3	1
Hemorrhage from uterus	13	7	5	2	2	1	...
Inflammation of the bladder	5	8	9	...	1	3	5
" " kidneys	4	7	7	3	3	1	...
" " prostate gland	1	...	...	...	...	...	...
" " uterus	8	15	8	5	2	1	...
Mania, puerperal	2	...	...	...	...	...	...
Rupture of the bladder	1	...	...	...	...	...	...
" urethra	1	...	1	1	...	...	...
" uterus	3	...	...	...	...	...	...
Stone in bladder	1	...	...	...	...	...	...
Suppression of urine	...	...	3	...	...	...	3
Syphilis	4	5	2	1	1	...	...
Tumour, ovarian	2	1	1	...	1	...	...
Ulceration of the uterus	1	...	1	1	...	...	...
Totals	148	161	126	66	30	16	14

TABLE VII.—*Mortality from Fevers.*

DISEASES.	ANNUAL AGGREGATES.			QUARTERS OF 1857.			
	1855.	1856.	1857.	1st.	2d.	3d.	4th.
Fever	16	10	3	3	...	...	...
" bilious	36	24	25	2	3	7	13
" cerebral	2	...	2	...	...	1	1
" congestive	7	3	5	...	1	3	1
" continued	1	...	2	2	...	...	...
" enteric	...	...	2	...	2	...	...
" gastric	4	2	4	2	1	1	...
" hectic	4	2	2	...	2	...	...
" intermittent	7	14	5	3	2	...	...
" malignant	2	...	...	...	...	...	...
" nervous	2	7	9	3	1	...	5
" pernicious	2	...	...	...	...	...	...
" puerperal	41	69	49	33	12	3	1
" remittent	48	22	23	7	5	4	7
" scarlet	163	992	704	425	153	60	66
" typhoid	231	229	175	42	36	45	52
" typhus	59	49	38	8	5	11	14
" " icterodes	...	5	...	...	...	...	...
" yellow	3	...	...	...	...	...	...
Totals	628	1428	1048	530	223	135	160
Total mortality, exclusive of stillborn	9869	11722	10338				
Per cent. of total mortality	6.30	12.18	10.13				

TABLE VIII.—*Mortality from Measles.*

DISEASES.	ANNUAL AGGREGATES.			QUARTERS OF 1857.			
	1855.	1856.	1857.	1st.	2d.	3d.	4th.
Measles	24	141	66	53	11	2	...

TABLE IX.—*Causes assigned for Death where the number is* 90 *and upward.*

DISEASES.	ANNUAL AGGREGATES.			QUARTERS OF 1857.			
	1855.	1856.	1857.	1st.	2d.	3d.	4th.
Apoplexy	110	123	115	32	33	26	24
Casualties	102	158	118	21	19	35	43
Cholera infantum	566	722	534	2	10	508	14
Consumption of the lungs	1327	1501	1544	407	359	386	392
Congestion of the brain	175	177	201	59	44	60	38
" " lungs	...	97	132	29	29	29	45
Convulsions	626	603	556	141	121	188	106
Croup	265	268	256	89	65	31	71
Debility	393	430	378	91	75	115	97
Diarrhœa	177	149	119	12	18	66	23
Disease of the brain	97	107	100	33	15	37	15
" heart	170	179	222	49	47	50	76
Dropsy	136	213	239	76	57	45	61
" of the brain	254	242	173	58	40	66	9
Dysentery	266	301	198	15	18	144	21
Effusion on the brain	...	94	92	30	13	39	10
Erysipelas	...	100	95	35	28	15	17
Fever, scarlet	163	992	704	425	153	60	66
" typhoid	231	229	175	42	36	45	52
Hooping-cough	90	...	...	...	...	...	...
Inanition	104	114	...	...	...	...	...
Inflammation of the brain	288	329	306	71	62	105	68
" " bronchi	233	250	179	72	53	20	34
" " lungs	442	379	504	175	135	65	129
" " stomach and bowels	187	184	299	70	65	98	66
Marasmus	436	484	506	88	86	231	101
Measles	...	141	...	...	...	...	...
Old age	172	172	195	45	40	61	49
Palsy	106	104	92	21	26	29	16
Smallpox	281	390	...	...	...	...	...
Stillborn	588	612	557	129	125	167	136
Unknown	220	257	291	85	78	71	57
Drowned	106	105	134	3	44	70	17

TABLE X.—*Deaths, with the Sexes, for each Month in the Year, and the Number at Sixteen Distinct Periods of Life, with the Percentages to Total Mortality, Exclusive of the Stillborn—also the Stillborn Children for each Month, and their Sex.*

MONTHS.	Males.	Females.	STILLBORN.			Under 1 year.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	100 to 110.	Total.
			M.	F.	Total.																
January . . .	605	534	25	17	42	221	113	232	82	21	26	93	87	59	55	37	43	25	3	1	1140
February . .	525	470	24	23	47	218	111	142	70	23	31	95	71	61	48	39	25	11	3	...	995
March . . .	465	443	22	18	40	163	106	128	52	20	25	92	71	54	53	41	40	16	6	...	907
April . . .	602	468	32	17	49	217	109	125	70	21	23	104	102	85	53	44	45	22	...	1	1070
May . . .	380	313	23	13	36	130	57	84	42	10	22	67	55	51	48	36	30	18	7	...	698
June . . .	316	319	20	20	40	102	43	72	37	14	26	54	73	46	47	41	22	16	1	1	635
July . . .	637	525	37	26	63	386	137	89	45	20	36	100	96	61	49	39	22	16	3	...	1162
August . . .	610	536	23	16	39	440	173	63	29	12	26	88	80	57	39	45	31	19	5	...	1146
September . .	529	432	42	23	65	300	161	25	15	16	29	86	81	64	49	39	18	7	6	...	961
October . . .	380	308	30	11	41	115	90	41	19	6	24	75	82	66	50	30	27	19	3	...	688
November . .	346	305	25	14	39	138	84	31	11	9	24	62	76	56	44	41	18	13	4	1	651
December . .	478	369	37	19	56	160	108	55	21	12	29	89	89	80	54	43	37	10	3	1	847
Totals . . .	5873	5022	340	217	557	2590	1292	1087	493	184	321	1005	963	740	589	475	358	192	44	5	10895
Percentages to totals	53.91	46.09	3.12	1.99	5.11	25.05	12.49	10.51	4.77	1.77	3.10	9.72	9.31	7.15	5.69	4.59	3.46	1.85	0.42	0004	

REVIEWS.

ART. XVII.—*Clinique de l'Hôpital du Midi—Leçons sur le Chancre*, professées par le Docteur RICORD, rédigées et publiées par ALFRED FOURNIER, Interne de l'Hôpital du Midi, Paris, 1858. 1 vol. in 8vo.

Clinic of the Midi Hospital—Lectures on Chancre, delivered by Dr. RICORD, collected and published by A. FOURNIER, House Physician of the Midi Hospital, Paris, 1858. 1 vol. 8vo.

THIS work contains many facts in proof of the doctrines formerly proposed or maintained by M. Ricord, and the avowal of the adoption of some new doctrines which the lecturer had opposed for many years. In the first lecture M. Ricord states that he has changed his views on various points, and he quotes the French verse, which declares, that he who never changes is absurd. This is something new for the great syphilographer, who has hitherto been very pertinacious in his opinions. We congratulate him upon his change of views, and must add, that we think he has not changed enough, as we propose showing hereafter.

M. Ricord maintains that a chancre is the sole origin of syphilis, except when inherited. He insists upon the analogy of chancre and syphilis, on one side, and the bite of a mad dog and hydrophobia on the other. He still affirms that a chancre results always from a chancre, and cannot generate anything but a chancre. The pus of blennorrhagia, of bubo, of a flat pustule, he still considers as incapable of generating a chancre and syphilis. But he has given up the important doctrine which he had been so ardently teaching for twenty-five years, that there is but one kind of chancre. He now admits that there are two distinct species of this affection, and, with his usual power of argumentation, he brings forward many reasons to support his new view.

It is known that, before and since the time of Hunter, until the beginning of this century, it was almost universally believed that the varieties in the consequences of a chancre were dependent upon the differences of constitutions, of sexes, ages, etc. In our century, Carmichael was the first who disbelieved in the unity of the virulent principle, but he erroneously maintained that there were four species of chancres. Two pupils of M. Ricord, during the last eight or ten years, have tried to prove that there are two kinds of chancre. One of these syphilographers, M. Bassereau, insists upon the existence of one of these species among the Greeks and Romans; it is the simple contagious ulcer of the genital organs, while the other, the indurated, the infecting chancre, the only origin of syphilis, is a new affection.

The other pupil of M. Ricord, M. Clerc, does not believe that there are positively two species of chancres, but he admits two distinct varieties of the same virus. One of them produces the indurated chancre, the other the simple or non-infecting chancre. They both are usually transmitted as a distinct patho-

logical species; but the simple chancre he thinks to be the result of the inoculation of an infecting chancre in a person who has, or who has had constitutional syphilis, and that it is the analogue of varioloid, so that he proposes to call it *chancroid.*

M. Ricord points out the great differences of the species of chancre as regards their symptoms, their relative frequency, the places where they are found, their treatment, etc. As regards frequency, the non-infecting variety, the simple chancre, is by far the most frequent. During three months at the consultation of the Hôpital du Midi, out of 341 cases of chancre there were 126 indurated or infecting, and 215 simple. M. Puche, from 1840 to 1852, has seen only 1955 indurated chancres, and 8,045 simple chancres, out of 10,000 cases. This is a fortunate result if it be true that the simple chancre never produces syphilis.

M. Ricord explains the great relative frequency of simple chancres: 1st. By the fact that they secrete pus which is more active and preserves longer the power of contagion than that of indurated chancres. 2d. They may exist many times on the same person, whilst indurated chancres, generally, do not. The learned teacher insists upon the impossibility of any one escaping the contagion of a simple chancre, if well inoculated with the fresh pus of this ulcer while it is at the period of virulence. In this, we think that he is mistaken, and the inventor of syphilization, M. Auzias-Turenne, and many other able and respectable physicians, such as Bœck and Sperino, have shown that men and children saturated with syphilis, or *syphilized*, to use the new term, cannot have any kind of chancre.

M. Ricord used to assert that chancre may be produced anywhere on the surface of the human body; now that he admits two kinds of chancres, he makes the important affirmation which is confirmed by his colleagues at the Midi Hospital, which is, that the indurated chancre may appear any where, but, strange to say, the simple chancre never occurs on the head (either on the face or the cranium). He has shown it to his pupils on the genital organs, on the thighs, on the legs, on the arms, on the abdomen, on the back, on the thorax, etc.; but for twenty-five years he has never met one on the face or on the cranium. On the contrary, he has seen the infecting or indurated chancre on all the parts of the head, on the lips, on the tongue, on the eyelids, on the forehead, on the nose, and even on the top of the head.

M. Ricord insists on the strange fact that the superficial lymphatic ganglions are alone attacked, and in cases of simple or non-infecting chancres are alone the seat of suppurative inflammation. It seems that the influence of the absorbed matter is lost after it has acted on the first lymphatic glands that it meets. This is the more strange, since the pus of a bubo can engender a simple chancre, and, therefore, it seems to be similar to the pus which has been conveyed to it by the lymphatics. How is it, then, that carried, as it must be, to deeper lymphatic glands, it does not produce there a suppurative bubo?

The capital fact, however, concerning bubos is the radical difference between those due to non-infecting chancres and those produced by infecting chancres. In the first place, the simple chancre does not always give rise to the formation of a bubo; while it is not so in the case of an infecting chancre, which constantly produces one or several bubos. The non-infecting sore produces an *acute* bubo, *i. e.*, an inflammatory painful one, progressing rapidly towards suppuration, capable of producing a real ganglionary chancre. Besides this, bubo exists generally, only in one of the glands of the region where it appears; it is an adenitis

mono-ganglionary. M. Fournier states that out of 207 patients affected with simple chancres, there were 65 only who had a bubo, and 142 without. The pus of such a bubo can generate a simple chancre when inoculated. On the contrary, the bubo due to an infecting sore, which very rarely gives origin to pus, does not then furnish a purulent matter capable of producing chancre when inoculated. This last bubo is *indurated* and is in this respect analogous to the chancre from which it originates; it is *multiple*, painless, and without inflammation. It appears precisely at the time that the induration becomes evident around the chancre.

An infecting chancre is usually single, while the non-infecting sore is multiple either at first, or in consequence of the inoculation of neighbouring parts by the pus of the first ulcer. This last is the kind of chancre which tends to extend and to destroy tissues; it is the most liable to acquire the phagedenic character. The indurated chancre is quickly limited, and spontaneously proceeds to cicatrization; its pus promptly loses its virulent power, at least upon the person on whom it exists.

M. Ricord adds to the above differences the following: The simple chancre may, perhaps, be transmitted to inferior animals, while the infecting ulcer can only be transmitted to man. The first can be reproduced indefinitely on the same person, the second it seems cannot exist more than once. Besides the first originates only from its own variety; and the second, also, results only from a similar one; but in a syphilitic patient, the infecting chancre originates in an ulcer with a soft basis, which looks like a simple non-infecting chancre. In this last case, however, we have proof that the infecting sore, although it has not its characters, does not lose the power of generating, for when by contagion the pus finds a virgin soil it produces an indurated chancre.

M. Ricord insists on the importance of these differences in relation to the prognosis and the treatment. As regards prognosis it is quite evident that it is of the utmost importance to be able to determine, as it is usually easy from the absence or presence of induration to do, that a chancre will be a simple local affection, or that it is the beginning of syphilis.

Although facts have been published which militate against the opinion of M. Ricord, that a man who has had an infecting chancre cannot have another, he resists the interpretation, and he has found a plausible way of getting over most of these facts. The facts to which we have alluded are the following: if an individual who has had syphilis be exposed to the contagion of an infecting chancre, a simple sore is produced, but he transmits to others who have not had syphilis an infecting chancre. Mr. R., therefore, admits the possibility of a person who has, or has had, constitutional syphilis having a simple sore, but he still affirms that such a person cannot have an indurated chancre. He thinks that this apparently simple sore, however, is the source of a kind of pus, which, when finding, what he calls, a virgin soil, will act as the pus of the infecting ulcer would have done which had caused this simple sore. In this respect M. Ricord will have to change again, as there are, at least, some few facts proving that an indurated infecting chancre may exist with all its characteristics in a person who has had syphilis.

Practitioners who are not willing to admit that a simple, soft chancre is never the origin of syphilis, are not aware, according to M. Ricord, of many circumstances which this able observer points out as the causes of their error. In the first place, there are some anatomical regions where it is difficult to ascertain the existence of induration, when we are not accustomed to detect it. This is the case as regards the mucous membrane of the vagina, the *car-*

unculæ myrtiformes, the anus, etc., where the induration may be extended in surface but is not deep, and resembles a piece of parchment; sometimes it is so thin that none but those much accustomed to it can detect its presence. In the second place, indurations in the above named regions disappear very quickly, and often before cicatrization. These are the causes of mistake which have led some persons to say that infecting chancres had no induration in women. M. Ricord insists upon the complete similarity of induration in women and men in all the parts of the body common to the two sexes; and he remarks that on the external parts (clitoris, etc.,) of the female genital organs the induration is deep, well marked, and lasting. So it is also on the uterus.

Cauterization of a soft sore may produce such an induration around it, that it is almost impossible to distinguish it from an infecting chancre. The diagnosis in such a case may easily be established by the bubo.

An important fact concerning the differences between the two kinds of chancres results from the comparative analyses of the blood. M. Grassi, under the direction, and at a time when the eminent syphilographer had not yet admitted the existence of the radical difference which he now acknowledges between the two species of chancres, had found that the blood remained normal, or nearly so, in cases of simple sores, while the absolute quantity of globules is notably diminished, and that of albumen increased, in cases of indurated chancres.

If simple chancres never give origin to syphilis, and if this kind of chancre is much more common than the other, it may readily be understood how mischievous it is to give mercury, at once, and indiscriminately to every patient attacked with chancre whatever are its characters.

A soft, non-infecting chancre needs only *local* treatment, but it requires very active and careful treatment on account of the dangers of phagedenism. M. Ricord says that the whole secret of success in healing such a sore, is to transform it from a specific, virulent ulcer, into a simple and non-virulent one. To attain this end cauterization is the best means; but a deep, a thorough cauterization, not a slight superficial one, is necessary. The caustic must be spread not only over the whole surface of the chancre, but also a little further. All the mild caustics are inefficient; it is necessary to employ a *destructive* caustic. M. Ricord has successively employed the Vienna paste, potash, nitric acid, the red-hot iron, etc.; all of which have some inconvenience; and he proposes a new agent, which he thinks to possess marvellous efficacy and to be unobjectionable in any respect. This caustic is sulphuric acid, united with powdered vegetable charcoal, in the proportions necessary to make a half solid paste. Applied to chancres, this paste soon desiccates and forms a kind of crust, which remains attached to the tissues and adheres for many days after its application, not separating usually until the second week. When the caustic becomes detached, the ulcer is nothing but a simple one without virulence, and very quickly progressing towards cicatrization. Sometimes the work of repair is almost completely achieved before the fall of the crust, and it is not rare to find the cicatrix already formed.

This caustic unfortunately causes much pain, but the pain is much less than that produced by nitric acid or the red-hot iron, and it persists for a shorter period than that resulting from the application of the Vienna paste. M. Ricord insists upon the immediate application of the caustic without the least delay; but, sometimes, patients are not willing to be cauterized. He then makes use of lotions with *aromatic wine*, and dresses the ulcer with charpie saturated

with this medicine. When there is a tendency to phagedenism, M. Ricord employs tartrate of potash and iron; his prescription is the following:—

1st. Take every day three tablespoonsful of the following solution: Distilled water, 200 grammes (6 ounces); tartrate of potash and iron, 30 grammes (1 ounce).

2d. Dress the ulcer or ulcers twice a day with charpie saturated with the above solution.

M. Ricord says that nothing can be more hurtful to soft sores than fatty substances. The mercurial ointment is an irritant which is one of the most frequent causes of phagedenism; mercury is a very dangerous remedy against this kind of chancre. When the soft ulcer exists in the urethra, M. Ricord at first tries to diminish the inflammation, and he states that camphor, belladonna, digitalis, lupulin, etc., have no power in this respect, and that they do not prevent erection. He orders the application of from 15 to 20 leeches on the perineum or on the penis, baths, and abundant drinks. When the inflammation is diminished, he orders injections into the canal of a mixture of aromatic wine and a decoction of poppies. If there is irritation caused by this injection, he employs pure aromatic wine.

As a local affection the indurated chancre is to be treated almost as the non-infecting ulcer, and even more simply. Regular dressings with aromatic wine or calomel ointment may be quite sufficient, as the ulcer usually tends to spontaneous cicatrization. But here, much more than for the soft chancre, cauterization in the very beginning is of the greatest importance. The general infection not being an immediate result, as it has so often been erroneously said, the same thing must be done as after the bite of a mad dog, or of a venomous snake, *i. e.* to destroy the infecting principle, as Hunter long ago taught. M. Ricord proclaims that all the chancres which he has cauterized or which have been cauterized in his presence from the first to the fourth day after contagion, none have been followed by symptoms of constitutional syphilis. It results from this that the syphilitic virus is not absorbed before the fourth day after contagion.

It is important to add here to the assertions of M. Ricord, the testimony of a distinguished physician of Vienna, Prof. Sigmund, whose practice is as large as that of the Paris teacher of syphilography. The observation of more than a thousand cases in a period of 11 years, has proved to Prof. Sigmund that there are never secondary symptoms after the complete destruction of chancres during the first four days. He says also that he knows of but two cases, which even seem to be doubtful, in which the cauterization made on the fifth day has not prevented the appearance of secondary symptoms. He cauterizes even after the fifth day, because he thinks that the chances of preservation are not entirely lost, and also with the view of preventing the communication of the disease to others. M. Ricord, on the contrary, neglects cauterization so soon as induration has appeared, because he thinks that then the virus has been absorbed. The treatment, after induration has appeared, according to M. Ricord, should always consist in the exhibition of mercury, which is given either internally or by frictions on the skin, or pulmonary inhalations. M. Ricord thinks that mercury should be given at once when there is no doubt about the nature of the chancre, but if there is the very least doubt, he insists upon the importance of waiting some time, so as to be quite sure whether or not there is a real syphilis. He proposes to wait a few weeks, if nothing appears, and if two, three, four months pass away without any manifestation of syphilis, then we may be sure that the doubtful ulcer was not an infecting one, and it is possible for the physician to give to

the patient the positive affirmation that he has not had syphilis; while if mercury had been employed it would have remained doubtful whether it had prevented the disease manifesting itself, or done nothing if the disease was not present. And now, as mercury may fail to prevent the future developments of this horrible affection, it is easy to understand what a *social* importance there may be for the patient to have his mind relieved of all doubts in regard to such a danger.

M. Ricord not only thinks that it is unnecessary to salivate a patient to cure him, but that the curative influence of mercury is generally suspended when the morbid symptoms due to mercury show themselves. The great Hunter had already asserted the same thing, but a great many physicians ignore or forget, or wrongly deny the correctness of this assertion.

Concering the treatment of salivation, there is in the work we are reviewing a paper on the use of the chlorate of potash, by M. Fournier, the house physician, to whom we are indebted for the publication of these lectures of M. Ricord. M. Herpin, of Geneva, and, after him, M. Demarquay, have pointed out the great benefit to be derived from the use of chlorate of potash against mercurial stomatitis. But these practitioners at the same time that they employed this medicine ceased the use of mercury. M. Ricord has persisted in the exhibition of mercury while he gave chlorate of potash, and the result has been that the salivation, the tumefaction of the gums, the ulcerations of the buccal mucous membrane, the pain, etc., have disappeared in a few days. It seems, therefore, that chlorate of potash is a real specific against mercurial stomatitis. Besides, it seems from facts recorded by M. Fournier that chlorate of potash may be regarded as a preservative of stomatitis; and also that the curative influence of mercury appears not to be diminished during the exhalation of chlorate of potash. This substance is to be given internally, 6 grammes (nearly 5 scruples), in a potion of 200 grammes (6 ounces).

It is well known that M. Ricord, as well as most physicians now, have completely abandoned treating the tertiary symptoms of syphilis with mercury. Iodide of potassium is the only medicine which M. Ricord employs against these symptoms. He thinks it is a great mistake to give enormous doses of this medicine, as some French physicians have done lately; but he uses larger doses than Amerian practitioners are accustomed to employ. During the three or four first days he prescribes 3 or 4 grammes (about 1 drachm) of iodide of potassium a day, and afterwards he increases the dose to 5, 6, or 8 grammes (4 to 6 or 7 scruples), or even more a day.

In the commencement of syphilis, M. Ricord's rule of treatment consists in giving mercury for six months, and iodide of potassium for three months.

These are the most interesting facts and views to be found in the *Lectures on Chancre.* We regret that M. Ricord leaves us in the dark concerning two important points. The first of these consists in the doctrine long held by this eminent syphilographer regarding the loss of contagiousness of infecting chancres, when they are becoming mucous papulæ. M. Ricord had certainly well proved that the matter of these chancres, when inoculated on the person upon whom they exist, does not produce a chancre, but he had concluded that the same innocuity would exist on other persons. Many unfortunate consequences have been the results of the admission of this view as a well founded one, particularly among French medical students. It is yet to be determined at what time the muco-purulent matter of mucous papulæ, resulting from infecting chancres, can propagate syphilis; and the energetically maintained doctrine of M. Ricord, that a chancre alone can originate a chancre,

must be considered as not absolutely correct, unless we term mucous papulæ of recent formation, still producing muco-pus, chancres.

There is another question which M. Ricord has not solved, and this is a capital one; it consists in the admission of the existence of one or two kinds of chancrous virus. It would seem from so many statements made by the learned teacher on the differences between the two kinds of chancres, that he must admit that there are two kinds of virus. He declares, however, and rather obscurely, that we must wait and not try now to solve this question. As regards the existence of one or two syphilitic poisons, he is more decided and he declares positively that there is but one kind of syphilis. It seems to us that the solution of this question is also the solution of the other. If truly there is one kind of chancre which never gives syphilis, as M. Ricord affirms, and if there is another kind which always leads to syphilis, when not at first properly treated, it is certain that there are two species of chancrous virus, a syphilitic one, and another which is not syphilitic.

Except the portion of these lectures on chancre in which there is obscurity and indecision relating to these doctrinal questions, this work is a model of clearness in the exposition of almost all the views of the lecturer. It contains many interesting cases as proofs of these views; and both teachers and practitioners will find in it much which may prove useful to them. It furnishes the reader besides the lectures, several additional documents of great interest, and particularly various statistics collected by M. Fournier, the intelligent pupil of M. Ricord, to whom we owe this work. E. B—S.

Art. XVIII.—*On Stricture of the Urethra.* By Henry Smith, F. R. C. S., Surgeon to the Westminster General Dispensary, formerly House Surgeon to King's College Hospital. London, 1857: pp. 280.

Mr. Smith intends his treatise, as he declares in the preface, to be strictly practical, and to be restricted almost entirely to the exposition of his own views on the various points connected with the disease of which it treats. He trusts

"That the opportunities afforded to him as pupil, as house-surgeon, and as visitor in the wards of King's College Hospital for ten years, by experience among the numerous patients of two large public institutions to which he has been successively attached for eight years, by attending many cases in his own private practice, and by making use of the very valuable advantages offered to him in the capacity of private assistant to Mr. Fergusson for nearly ten years, will entitle his opinion to a favourable consideration."

Two hundred and twenty pages of the work are devoted to the treatment of strictures of the urethra. The author

"Not having considered it necessary, in a treatise which is intended to be strictly practical, to dwell at any length upon the anatomy and physiology of the sexual organs;" and "some points in connection with the pathology of the disease have been but slightly noticed."

This work is a valuable one in many respects; some modes of treating stricture, particularly cauterization and external incision as recommended by

Syme, are very ably discussed; but it is not what the author intended to make it—a practical treatise. Or rather, the treatise would have been much more practical, if the author had entered more fully into the anatomy, physiology, and pathology of the urethra.

The author says himself, at the commencement of his description of the anatomy of the urethra, that, "in no instance of surgical disease is it more necessary to have a clear conception of the structure and relations of the parts, than when the practitioner is dealing with stricture of the urethra;" and yet he does not go beyond a description of the mucous membrane of the canal and of the muscular layers surrounding it, with a mention of the artery of the bulb, the dorsal vein, and a reference to the situation of the rectum. Not a word is said even in regard to the diameter of the curve made by the urethra in its course under the pubic arch; and we doubt whether there be any point of greater practical importance connected with the whole subject of stricture of the urethra; and it is certainly one, in regard to which—judging from the curvatures often given to catheters—the most erroneous ideas prevail. In connection with the organic muscular coating of the urethra, we expected to see it stated that Kölliker had discovered it, as well as Mr. Hancock, and we should have been glad to have seen an account of the method to be pursued for finding it, as we have repeatedly heard anatomists of no mean skill declare their want of success in its search.[1] The physiology of the urinary organs is not touched upon at all; there is not even a word said in regard to the condition of the walls of the urethra during life, or to its action during micturition.

Chapter II., headed "Stricture; its Nature and Pathology," treats of the pathological anatomy of stricture, its formation, its varieties, its most frequent seats, and its pathological effects. As usual, strictures are divided into permanent and spasmodic; a better division than that which we believe is adopted by Thompson,[2] of permanent and *transitory*. We say it is better, because it enables an author to find a place for *inflammatory stricture*, a kind of stricture which, if he could, Mr. Smith would like to deny the existence of (page 18) from the embarrassment he experiences on account of its being neither permanent nor spasmodic. Inflammation may close the canal, from congestion of the vessels and the outpouring of inflammatory products into the tissues around; and it may terminate by resolution, and leave the urethra as pervious as before. It is well, therefore, to place strictures, due to local vascular inflammation or congestion, causing temporary narrowing of those parts of the urethra, and those due to unwonted muscular action alone of the voluntary or involuntary fibres, under one class, as *transitory*.

[1] As this is an important point in the anatomy of the urethra, we will give ourselves the plan to be adopted; it will be perhaps less out of place in a note than in the text. A fresh urethra is slit up, and pinned upon a board so as to put the flaps on a stretch. The mucous coat carefully removed, and then a firm substratum of elastic cellular tissue, a grayish layer is reached; this is the muscular coat. *Tease out* a small piece, in water, with fine needles. Hunter, in his work on the Venereal Disease, commences his chapter (VII.) treating of spasmodic stricture, by declaring the tissue of the urethra to be muscular; adding soon after, that the only proof we have of the truth of this is that it is subject to diseases which are peculiar to muscles in general. In the French edition of his works, a note of Ricord declares his *previsions* to be partly realized, as anatomy has shown the membranous portion of the urethra to be formed of muscular fibres; at the present day, they are fully realized.

[2] The Pathology and Treatment of Stricture of the Urethra, both in the Male and Female. Being the treatise for which the Jacksonian Prize, for the year 1852. was awarded by the College of Surgeons of England. By Henry Thompson, London, 1854.

Permanent strictures being the most frequent, the most troublesome, and those followed by the most serious consequences, this part of the subject is commenced by their consideration. The pathological alterations of the urethra which are found in the examination of these strictures are treated of in three pages, two of which are occupied with stricture from deposit *upon* the mucous membrane, as recently described by Mr. Hancock; only one page is devoted to the description of the changes which are found in and beneath the mucous membrane. Now it is upon a correct knowledge of these changes that anything connected with their treatment must be based; no knowledge can be more practical, and no treatise can be considered as practical in which they are neglected. Of late years much attention has been paid in England to this part of the subject of stricture, and our knowledge of it is become far more satisfactory. The time is not so remote as most persons may be inclined to believe, when impediment to the flow of urine was supposed to come from thickened humours fixed in the canal; from warts; from coagulated blood; from a stone. Thompson, for the preparation of the work we have cited, declares that he examined closely more than three hundred preparations for his pathological anatomy, and his chapter on the classification and pathology of stricture is most valuable. So highly appreciated is this chapter of Mr. Thompson, that we find a continental author offering it, translated of course, to French surgeons.[1] The only fault we have to find with Monsieur Pró is, that he only says that he went to London to study "pièces anatomo-pathologiques," and does not mention Mr. Thompson's book at all. His abilities as a translator are of the first order; so superior, that we will give a specimen of them to the reader, assuring him, moreover, that from page 50 to page 73 of the memoir, the translation is of equal fidelity.

"What are the essential pathological elements of organic stricture? And what are the strictures in which the constriction itself is seated? Their consideration may be advantageously entered upon together. The first effect of inflammation upon the mucous membrane is a swelling or thickening of it, caused by engorgement of the vessels. Then exudation of an albuminous fluid takes place into its substance, and into the tissues beneath, making them œdematous, all which matter is readily absorbed under favourable circumstances; and so far we have the condition which exists in mere inflammatory stricture, one of the transient forms of the affection, because resolution readily follows, &c."—*Thompson*, page 58.

"Maintenant voyons quels sont les éléments essentiellement pathologiques du rétrécissement organique, et dans quels tissues se trouvent ces altérations; nous croyons qu'il y-a avantage à traiter en même temps ces deux questions. Le premier effet de l'inflammation sur la membrane muqueuse consiste dans une tuméfaction ou épaisissement causé par l'engorgement des vaisseaux; puis on observe dans la trame même de la membrane, une exudation albumineuse qui s'étend aux tissues environnants, qu'elle rend œdemateux. Toute cette matière se resorbe assez vite dans des conditions favorables, c'est à dire dans les rétrécissement inflammatoires qui se terminent par resolution, &c."—*Pró*, page 50.

Mr. Hancock, who has done so much for the anatomy, both normal and pathological, of the urinary organs, and who is so well known in this country by the Lettsomian Lectures delivered by him, and published in the *Lancet*, on that subject, discovered that permanent stricture from false membranes within the canal, upon its free surface, is a common and frequent occurrence. In his Lectures he relates cases which show that the fact was only to be determined by the microscope; "the membrane was so identified with the

[1] Mémoire sur l'Anatomie Pathologique des Rétrécissements de l'Urèthre. Par José Pró. Paris, 1856.

mucous membrane, it seemed rather thickening of the membrane itself that caused the morbid appearances." In some cases a valve was formed by the false membrane, and the greater the pressure from behind, the more the valve was raised up, and the more the canal was closed. This condition of things probably existed in many of the specimens examined by Mr. Thompson, but the unaided eye being insufficient for its detection, it has been overlooked. This is a very interesting discovery, and an important one in the treatment of stricture.

As to the varieties of permanent strictures, Mr. Smith is not very decided. Of course they are more or less hard, more or less hemorrhagic, and more or less irritable; but to be clear in classification it is necessary to be clear in anatomy and pathology. We are much better pleased with the remarks upon spasmodic stricture: "A pure spasmodic stricture," he says, "is not to be denied, but in the majority of instances of so-called spasmodic stricture, there exists at the same time an organic narrowing of the canal, and the spasmodic contraction is an additional element, the result of some accidental irritation, local or general." In the majority of cases the spasmodic contraction is at the bulbous or membranous portion of the urethra, where the accelerator urinæ, the compressor urethræ, and the anterior fibres of the levator ani exert their action. Why, however, as sometimes occurs, the spasmodic action takes place in a portion of the canal where these muscles do not extend, it was difficult to explain until the whole canal was shown to be surrounded by organic muscular fibres.

In order to find the most frequent seat of stricture, Mr Smith examined 85 specimens in various museums of London: Bartholomew's, Cambridge, King's College, and the Hunterian. In 50 the stricture was either in the bulb or just in front of it; in 18, in the membranous portion, and in all but four of these the bulb was involved as well; and in 17, in some part of the straight or spongy portion, from the orifice to within an inch of the bulb. In only one case was there stricture of the prostatic portion, and that was in the shape of a broad membranous expansion! Thompson, in all the museums of London, Edinburgh, and Paris, could not find a single case of stricture in this region of the urethra.

It used to be considered by English authors, that strictures took place chiefly at the membranous portion. Civiale says, that "this inexact indication is owing to the fact that the membranous portion has been confounded by them with the point that separates it from the spongy portion."[1] The only way to fix upon the point affected is, not to trust to measurements from the orifice only, but to identify the contraction with the anatomical region of the urethra. The conclusions of Mr. Smith are undoubtedly correct; unfortunately he persists in speaking of the bulb as a region of the urethra, although he says himself, in giving the anatomy of the urethra, that it is well to consider the *bulb* as a continuation of the *spongy* portion (page 2). Mr. Thompson's examination of specimens was still more extended; he examined 320 strictures in 270 preparations, and dividing the urethra into three regions—one, comprising the junction of the spongy and membranous portions, one inch before and three-quarters of an inch behind, thus comprising the whole of the membranous portion; another, extending from this first region to within 2½ inches of the meatus, about 2½ or 3 inches in length; and a third, extending from the second region to the external orifice, he found that the first

[1] Mal. des Organes Génito-Urin., vol. i. p. 147.

region contained 215 strictures, or 67 p. c. of the whole number; the second, 51, or 16 p. c.; and third, 54, or 17 p. c.

Stricture, then, is most common at the point where we should expect it to be, namely, where the voluntary muscles cause spasmodic contractions of the canal, which, frequently repeated, would lead to organic contractions, where the urethra is in close relation with the anterior layer of the deep perineal fascia, where its form is such that instruments in unskilful hands are most likely to do harm; and again, and perhaps this is the chief reason, where gonorrhœal inflammation lasts with the greatest obstinacy. Hancock has thrown out a doctrine on this subject, which is somewhat curious. Strictures, he says,

"occur most commonly at the junction of the bulb with the membranous portion of the urethra; for—setting aside the consideration, that this portion of the urethra is the spot of all others most acted upon in the different conditions of erection and relaxation of the corpus spongiosum, and that spot, consequently, at which we should naturally expect stricture or mischief to occur—if we turn to such affections in other parts of the body, we find that for the most part they seem subject to a general law—that strictures, when single and organic, taking place in canals possessed of varied dimensions, are commonly met with at those points where the larger portion of the canal merges into a smaller one, or *vice versa*. Of the œsophagus, almost always about the fifth cervical vertebra, where the pharynx merges into the œsophagus. Again, we find permanant stricture where the œsophagus joins the stomach, at the cardiac orifice; where the stomach joins the duodenum, or at the pylorus; where the sigmoid flexure of the colon joins the rectum; and at the lower part of the rectum where the dilated portion of the gut joins its more contracted termination. Likewise in the lachrymal apparatus, we find that constrictions mostly obtain where the lachrymal sac joins the *ductus ad nasum*. So, in the urethra, strictures mostly occur at that spot where the narrower membranous portion passes into the more dilated fossa of the bulb."[1]

The *effects* of stricture are well described at the termination of this chapter, and what is rather remarkable, without exaggeration. It seems to be a natural tendency of writers of monographs to exaggerate the frequency and importance of the affection of which they write; and never more so than when the affection regards the urinary organs. For instance, in his *Practical Observations on Diseases of the Prostate Gland*, on account of its being often affected in advanced life, Sir Everard Home says:—

"From its frequent occurrence, perhaps we may be justified in believing that it is alluded to in the beautiful description of the natural decay of the body in the Bible, in the Book of Ecclesiastes, 12th chap., 6th verse, where it is written 'or the pitcher be broken at the fountain, or the wheel broken at the cistern,' expressive of the two principal effects of the disease, the involuntary passing of the urine, and the total stoppage."

An exaggeration of this kind, however, is harmless, and we are pleased to meet such a charming instance of the private interpretation of the sacred writings. There is, however, an exaggeration of the horrible, by many writers, in their descriptions of the effect of stricture, which may reasonably lead us to question their motives. One celebrated writer declares that "perhaps one-third of men pass more or less their life in the misery called retention of urine," and then proceeds to describe their misery in a way to rival the newspaper advertisements of charlatans. There is certainly in such

[1] The Lettsomian lecture, by Henry Hancock, in Lancet for April 3d, 1852.

cases the unworthy design of frightening patients into their hands, if they cannot win the esteem of respectable surgeons. Their motto is,

"Flectere si nequeo Superos, Acheronta movebo."

Among these effects of stricture, we notice that dilatation of the canal, behind the stricture, is declared to be "by no means of frequent occurrence, and that in many instances of obstinate stricture there is no dilatation." This is contrary to the statement given by most authorities on this point. The American surgeon, who has written most extensively on these subjects, states it to be "one of the most frequent as well as most serious lesions consequent upon stricture."[1] We are inclined to think that Mr. Smith is wrong on this point, when he differs from the great majority of surgical writers. In another point, in which he agrees with all of them, the microscope shows him to be wrong. In speaking of the effect of stricture upon the bladder, all writers declare that its walls become thickened from hypertrophy of its muscular coat, on account of the increased action required to overcome the impediment. This thickening of the coats of the bladder, as well as the columnar appearance of the inner surface, is due, however, not so much to the muscular as to the cellular coat of the viscus; the microscope shows that these projections are not muscular, but are composed of elastic cellular tissue.

Chapter III. is upon the symptoms and causes of strictures. The symptoms of stricture are given with method and clearness, but if, in place of the arrangement he has adopted, locating the effects in one chapter, and the symptoms in another, Mr. Smith had made one chapter, entitled Pathological Effects and Symptoms of Stricture, it would have been better. Such an arrangement was particularly to be preferred in a work where it is desired to treat of these subjects without occupying any great space, for it would have avoided repetitions otherwise absolutely necessary. The main symptom or sign of stricture, the one afforded by exploration of the urethra, is considered in a subsequent chapter, the 5th, in which treatment by temporary dilatation is treated of.

Of all the causes of stricture, he believes gonorrhœa to be the most fertile. As to injections, he declares that it is much more reasonable to allege that they prevent the formation of strictures; adding, however, that when used in too great strength they may doubtless lead to stricture, and moreover, his belief that "in one or two of his own patients, a very strong injection of nitrate of silver had led to the production of the disease; but in these cases it acted very violently, producing severe pain and much hemorrhage." Next to gonorrhœal inflammation, injury of the urethra is, in his opinion, the most frequent cause of stricture. "Contusions of the perineum, caused either by a kick, by a cricket-ball, or by a bump upon the pommel of a saddle, or across a ship's yard-arm, are frequently attended with a laceration of the urethra to a greater or less degree;" and "certain changes necessary for the repair of this loss ensue, and the result is a cicatrix, and a contraction of the canal." Even when there has been no actual solution of continuity, but only a severe contusion of the canal, "a considerable amount of inflammation takes place, lymph becomes deposited around the urethra, and in this way stricture may be formed." In those cases where contusions of the perineum are ultimately productive of stricture, it not unfrequently happens that

[1] A Practical Treatise on the Diseases, Injuries, and Malformations of the Urinary Bladder, the Prostate Gland, and the Urethra. By S. D. Gross, M. D., 2d ed. Phila., 1855.

the symptoms are not witnessed until some time has elapsed; "weeks, months, or even years, may go by before the patient gets troubled with any difficulty in passing his water." Some very interesting cases are given as examples of these points.

External injury is not usually given as the cause of a large proportion of strictures, but we find Mr. Smith's opinion fully borne out by the table made by Thompson, and recorded in the work we have already cited. In 220 cases, the cause was

Gonorrhœal inflammation in	164
Injury to the perineum in	28
Congenital	6
True inflammatory stricture	8
Cicatrization of chancres	3
" following phagedena	1
Poisoning by nitrate of potash, lithotrity, masturbation, of each one	3
True spasmodic stricture from irritation of rectum	2
" " " no cause assignable	2
" " " under acidity and alkalinity of the urine	3
	220

In only three of these cases was the disease attributed by the patient to strong injections.

The remaining chapters of Mr. Smith's treatise on stricture, occupying nearly three-fourths of the whole work, are upon the treatment of this affection. They are replete with valuable information and judicious advice, and what is quite remarkable, when the subject treated of is considered, they are written in temperate language. We say when the subject treated of is considered, for it must not be supposed that the operation of Mr. Syme first called forth such abusive language, as the friends and opponents of that operation have been recently using. In the beginning of the century, though not so many books were written in England, yet their language was about the same, in regard to cauterization.[1] In France for many years the same thing has been going on, Civiale, Leroy d'Etiolles, Heurteloup, Maisonneuve, &c., have been using language almost, if not altogether as violent as any we have seen used in England. Some of the productions of M. le Baron Heurteloup are remarkable specimens of skill in abusing rival surgeons.[2] Of course all writers upon stricture have not been guilty in this way; but we noticed with pleasure the tone in which Mr. Smith has written, for he has been a party in several of the discussions that have recently occurred in England, and particularly in one that took place at the Medico-Chirurgical Society on the occasion of the reading of a paper by Mr. Syme, in which his method was exposed.

Previous to describing the modes of treatment in cases of stricture, it would have been well, we think, for Mr. Smith to have given some rules in regard to those in which it is proper to institute any treatment, for, because the canal

[1] See, for example: "A critical inquiry into the ancient and modern method of curing diseases in the urethra and bladder." By Jessé Foot, Surgeon.

[2] See, for example: "Rétrécissements de l'uréthre. L'Etat de la science dévoilé à l'occasion d'un nouveau procédé féroce, avec un court mémoire pour servir d'antidote. Par M. Le Baron Heurteloup," or "De La guérison immédiate des rétrécissements de l'uréthre, &c., et sur les effets dangereux des bougies," by the same author.

has lost half a line or more of its diameter, or the jet of urine is more or less irregular, it is not necessary for the surgeon to interfere. It is only where a stricture continues gradually to become more narrow, or where it hinders and compromises the direct functions of the urethra and those of the organs with which it is connected, that it should be submitted to treatment.

Though it is very necessary to combine other measures with the employment of instruments, in the treatment of stricture, yet the disease is chiefly a mechanical one, so to speak, and one to be remedied by mechanical means. The mechanical means invented for this purpose are innumerable, and the modes of treatment are altogether so many and so various, that we must judge either that an efficient mode is wanting, or that our present appliances are not rationally and systematically applied to suitable cases. Another thing to be noticed is, that stricture is one of the pasturages of quacks, as cancer, phthisis, &c., and we may reasonably judge that it is because it is a disease which regular practitioners often fail to benefit. A correct knowledge and proper treatment of affections of the urinary organs by surgeons would greatly diminish the number of quacks, for we believe that this want of success is generally owing to their ignorance of, and inability to properly apply the means at their disposal.

In the treatment of stricture two indications are to be fulfilled; the natural calibre of the canal is to be restored, at least so far as is consistent with the safety and comfort of the patient, and the canal is to be maintained in this condition afterwards. This second part of the treatment is one of indefinite duration, for, as in all the mucous outlets of the body, there is a disposition to recontraction when once the canal has been narrowed. So that in by far the greater proportion of cases of confirmed stricture, although by suitable means the original calibre of the canal may be restored, there is always a tendency for the stricture to return. For this reason, in his essay, Mr. Smith declares that he will never mention the term cure in reference to stricture.

The mechanical means invented for the treatment of stricture are, as we have said above, innumerable; they extend from the mild means of Bruninghausen, who reports to have cured patients, by having them to distend the urethra with urine, the meatus urinarius being closed while they endeavoured to expel it, to the means advised by Arnott, in which an empty bag was to be introduced behind the stricture, and then inflated and drawn forwards, a canula afterwards being pushed against the stricture in front, in which a circular knife was contained cutting the stricture out at one push.[1] All these means, however, can be classed under three heads—dilatation, destruction by chemical agents, and division by cutting instruments. Mr. Smith says:—

"In the first place, then, we have *dilatation*, of which there are three modifications—simple dilatation, permanent dilatation, rapid or forced dilatation. Next, there is *cauterization;* and of this there are two methods, or rather, there is the employment of two different substances, viz., nitrate of silver and potassa fusa. Lastly, there is *incision*, under which somewhat comprehensive term we place several varieties which are practised by the surgeons of the present day: 1st. *Internal* incision, performed either from before backwards, or from behind forwards; 2d. *Incision of the stricture from the outside, or perineal section*, of which proceeding there are also two varieties. 1st. The section at the point of

[1] In his "Treatise on Stricture of the Urethra, containing an account of improved methods of Treatment, with an appendix, &c." By James Arnott, London, 1819.

an instrument which cannot be passed through the stricture; and 2dly, the *section* performed upon a grooved instrument previously passed along the urethra into the bladder" (p. 62).

Of course, in addition to these mechanical methods general measures must be adopted, to allay the irritability of the system, and to correct the state of the urine; a tolerable account of these measures is given, here and there, in Mr. Smith's book. It is not so full as it should be, but more so than in very many treatises on the subject. In the most important work on this affection published in this country, one we have already referred to, in speaking of the treatment of stricture, the condition of the urine is not attended to at all; the only directions we find are "demulcent drinks should also be used; and there are few cases which will not be benefited by the exhibition of bicarbonate of soda, and balsam of copaiba." It is to be remarked also that those authors who neglect general measures, are those who advise the use of the harshest mechanical treatment. This is owing to the extreme to which Hunter went, and to the influence of his authority; he was not willing, in permanent stricture, to make use of any means but local applications, as he declares at the very outset.

Before describing the manner in which treatment by dilatation is to be pursued, Mr. Smith gives an account of some of the various materials of which bougies and catheters are constructed, and of the various forms given to them. For reasons of safety and efficiency, he prefers the use of wax bougies, until the urethra has been so far dilated as to admit a No. 4 or 5, when he commences to use metallic instruments. A hollow instrument has the great advantage of revealing, by the flow of urine, the situation of the instrument; the curve, Mr. Smith says, should be "moderate, neither too small, too abrupt, nor too extended;" a conical point he objects to because the instrument may more easily penetrate lacunæ, and more readily tear the urethra. Moreover, if there be more than one stricture, it will be difficult or almost impossible to know whether the instrument be stopped by the second obstruction or not; "for, in consequence of the diameter of the catheter increasing from the point, it may be prevented advancing by the first stricture only."

A surgeon, well acquainted with the management of instruments in the urethra, will generally prefer an inflexible instrument to a flexible one; indeed, we think he will only choose the latter when the obstacles opposing the entrance are of such a kind that it must be allowed to worm its own way. Of all inflexible instruments, the one producing the least abrasion of the urethral mucous membrane is a perfectly well polished metallic sound. As a general rule, they have too large a curve, from a mistaken idea of the natural curve of the urethra, which Arnott, for instance, says has a diameter of six inches; the "moderate curve" of Mr. Smith is not sufficiently precise. The natural curve of the urethra commences at an inch and a half anterior to the bulb, and from this to its termination in the bladder, forms an arc of a circle three inches and a quarter in diameter, the chord of the arc being two inches and three-quarters, or rather less than one-third of the circumference. It is also a matter of importance to have the axis of the point of the instrument at right angles with that of the shaft, for then the surgeon can best judge where the point is going when hidden in the urethra. The gum-elastic catheter is a valuable instrument, for it may be used as flexible or inflexible by reason of the stiletto; it may be used as a straight instrument, or any form whatever may be given to it; and, moreover, should it be requisite to

leave the instrument in the bladder, by withdrawing the stiletto the patient is free to walk about.

A separate chapter is devoted to each form of dilatation; that is, temporary and permanent. As this is the method which undoubtedly should be used as the rule in treating stricture, others being used only, if ever, when the nature of the obstruction is such as to make it impracticable, or when the urethra will not endure the repeated contact of instruments, it is impossible, almost, to study it too carefully. The advice contained in these chapters is excellent, and we doubt whether the surgeon need often have recourse to other means if it be faithfully followed. We remark here again the attention paid to constitutional treatment, for we believe that its neglect has often caused the abandonment of dilatation and the adoption of other and dangerous measures. As Mr. Smith's preceptor, the celebrated surgeon to whom his work is dedicated, teaches—

"In the great number of these troublesome cases (of excessive irritability), it will be found that the general condition of the system is at fault, and it is highly necessary that the surgeon should find this out, and, by the administration of proper remedies, endeavour to correct the morbid state."[1]

Very many instruments have been invented for dilating stricture, but we doubt whether there is much use in being acquainted with them, and Mr. Smith has done well in his practical treatise in saying nothing about them. Their inventors forget that the subsequent tendency to contract is strong in proportion to the rapidity with which dilatation has been effected, so that, in reality, the patient is no gainer thereby, and, moreover, that sudden dilatation is apt to be followed by violent symptoms. With some of these instruments, as, for instance, Arnott's tube of oiled silk, described in the work we have before cited, page 96, they may be pronounced to be useless merely because they can be used. If such an instrument can be introduced into a stricture, we can do without it. Here, as in almost every surgical disorder, it is the surgeon's judgment and manual dexterity that make the excellence of the instrument, and not the strangeness of its mechanism.

At the commencement of Chapter VII., which is upon the treatment of stricture by caustics, Mr. Smith says:—

"I have hitherto considered those methods of treating stricture which are usually adopted in this country; and it has been shown that *dilatation*, either temporary or permanent, is, for the most part, only suitable in those cases where an instrument of some kind can be introduced through the stricture without force; and the majority of cases are those where the obstruction is not *impermeable* to an instrument when cautiously and patiently used. Still, every now and then, we shall meet with an instance where, either from the patient's fear or neglect, the disease has been allowed to become so bad that the surgeon cannot pass any dilator without exerting an unwarrantable amount of force. In the mean time, the patient is suffering most severely from the effects of his malady, and is urgent for relief. In such a case, it is necessary to employ some other method by which the contraction may be overcome, and the mischief which is going on be stayed in its progress. Then, again, it has been seen that cases are met with in which, although a small instrument may be passed, there is such a difficulty in carrying on dilatation, either from the density or irritability of the stricture, that the surgeon is compelled to resort to some other remedial means which either prepare the way for dilatation or assist this process when once it has been commenced. Fortunately, these means exist in the form of *caustics*."

[1] Fergusson, Clinical Lecture in Med. Times and Gazette, 13th March, 1852.

We cite the whole passage in order that it may be clearly understood with what object Mr. Smith employs caustics. Hunter, who revived the use of caustics in the treatment of stricture, employed it chiefly in cases where he could not introduce a bougie at all, and laid it aside so soon as a small one was admitted. Hunter, be it remarked, lays it down as an axiom that when a bougie can readily pass, there is no necessity for the use of any other method. Sir Everard Home extended the application of caustic to all strictures, making its use the rule, and that of simple dilatation the exception. The caustic used by Hunter and his pupil was the nitrate of silver. Mr. Whately, in the commencement of the present century (1804), in a work entitled *An Improved Method of Treating Strictures of the Urethra*, first advocated the use of the potassa fusa. The plan of Mr. Whately was not favourably received at the time, but of late years it has been much made use of in England. Mr. Wade has, perhaps, been as instrumental as any other surgeon in this revival. Some of the cases of cure reported by this surgeon are certainly very remarkable; one is almost inclined to coincide with Mr. Syme, who thus speaks of them at page 53 of his treatise: "On a whole, it seems more reasonable to conclude that, in the cases of alleged cure by caustic, there was no real stricture in existence, than to suppose that so improbable or rather impossible an achievement had been accomplished." Mr. Smith, as seen by the citation given from his book, makes use of caustic when no instrument will pass, when the irritability is too great to allow of the frequent passage of an instrument, and when the density is so great that dilatation must be assisted. The use of the nitrate of silver occupies one page and a half; the rest of the chapter, or thirty-five pages, is devoted to the use of potassa fusa. Nitrate of silver he has not used to any great extent, but he "has seen enough of it to know that it may produce very excellent effects in allaying irritability." The potassa fusa is a far more powerful agent, and, therefore, a far more dangerous one. Mr. Smith would have it used as an agent, "producing actual destruction of the thickened tissue itself," though he declares also that "its beneficial action on stricture must be mainly attributable to its exerting an amount of irritation sufficient to produce actual absorption of the thickened tissue." The application is made by introducing into the extremity of a bougie a piece of the inside of a stick of *potassa fusa*, about the size of a large pin's head, pressing the edges of the cavity around it, so that it be but slightly prominent, and then passing the bougie down to the stricture, against which it is lightly pressed for the space of a few moments or more, according to the nature of the case. Of course, the extremity of the instrument is previously dipped in oil, which, although it unfortunately, as we think, does not always render the potash innocuous by forming a soapy compound, yet must very much diminish its action. The accidents which may result from this application are *retention of urine, hemorrhage, false passages, and perineal abscess.*

Mr. Smith relates a number of cases occurring in his own practice to show that a stricture may be opened up or destroyed for a time at least by the use of this caustic. Also one case to show that, "even after a stricture has been well opened up by it, there is just as great a chance of the stricture returning again as after any other kind of treatment if the precaution is not taken to pass a bougie every now and then."

He concludes the chapter on cauterization by saying that *potassa fusa* should be considered chiefly in the light of an adjunct to dilatation, so that the surgeon should not be led to trust to it alone, or to be led into using it

too frequently. "Above all things, it is necessary to bear in mind that caustic, and especially potassa fusa, is not to be used without *extreme caution*, either, indeed, as regards its actual application or the selection of the cases for its employment."

We have a good deal of confidence in the prudence of Mr. Smith, as a surgeon, but we believe that in the use of caustic he goes too far. A stricture of the kind described by Mr. Hancock, where there is a false membrane upon the free surface of the urethra, or a stricture accompanied by ulcerations, or one depending upon vegetating fungosities, would get well sooner by combining cauterization with dilatation, than by the latter proceeding alone, if the caustic could be exactly applied upon the diseased surface, and any extension of its action over the healthy tissues prevented. Again, it would be necessary to diagnosticate these pathological conditions. But if cauterization be employed, to destroy cicatrices, which other cicatrices, then of greater extent must replace; if it be applied upon hard, callous strictures, in which resolution is no longer possible, far from ameliorating the affection, it is aggravated, and a cure, which other means more apppropriate might have obtained, is prevented.[1]

Mr. Smith's experience with the potassa fusa has not been very great, and we are inclined to think that his opinion as to its application in stricture may undergo a change. In 1832, Mr. Benjamin Phillips published a *Treatise on the Urethra; its Diseases, especially Stricture, and their Cure*, in which he advocated strongly the use of the nitrate of silver. Eleven years afterwards, in the *Medical Gazette*, for December, 1843, he states that a larger experience has satisfied him that the conviction was not well founded. "I believe," he says, "we know no means of effecting a permanent cure of advanced cases of stricture; but I think the best means we possess is the prudent employment of dilatation. I apprehend the good derived from the use of caustics is owing to the modification of the sensibility of the canal, which has allowed of a more unreserved use of dilating bodies, than could have been had without it." It is impossible, Thompson declares, to obtain information respecting the subject upon which greater reliance could be placed.

In this country, on the subject of cauterization, Dr. Gross writes that, in his judgment, it should be restricted to cases "in which the stricture, without being very tight or extensive, is of a firm, gristly, and resilient character, and in which there is an undue amount of morbid sensibility of the mucous membrane of the urethra. The nitrate of silver acts mainly as a sorbefacient, rousing the absorbent vessels of the part, and inciting them to the removal of the adventitious deposit." This is surely as far as it is proper to carry the use of cauterization, but unfortunately, notwithstanding the advice of the American writer, caustics are extensively used as destructive agents in this country, and, as it requires but a limited experience to discover, with very distressing consequences.

With Chapter VIII., Mr. Smith commences the consideration of the treatment of stricture by *division with the knife*. He makes no reference whatever to the punctures, filings, and scarifications, which have been, and still are, recommended from time to time, and discusses only *incisions*, made either from within outwards, when they can be made from before backwards, or from behind forwards; or from without inwards, when they can be made either upon an instrument previously introduced into the canal, or without.

[1] This is the opinion of Ricord, as given in the French edition of Hunter's Treatise on Syphilis, Paris, 1845, page 320.

The incising of the urethra, from within outwards, is first studied by Mr. Smith, under the title of *treatment by internal section.* The chapter he has devoted to this is far from being a satisfactory one; indeed, we are unable to conclude from it what his opinions are. We believe, however, that he holds it to be a dangerous operation, particularly when performed from before backwards; sometimes to be one speedily fatal, and, moreover, one more speedily followed by a return of the disease than dilatation. No description is attempted of the host of instruments which have been invented, by Civiale, Leroy, Ricord, Maisonneuve, etc. etc., for the purpose of making these incisions. One of the men we have just mentioned, has alone described and invented so many, that one of his enemies, in a work he has published, likens him, with a grossness of language quite usual to him, to certain women "who are always conceiving and never bringing forth, or, at least, bring forth before their time, badly formed embryos." English surgeons do not seem, at least so far as we can judge, to have ever been much in favor of the *internal section,* as Mr. Smith calls it. Mr. Stafford's work, *A Series of Observations on Strictures of the Urethra; with a new Mode of Treatment,* published in 1828, by its strong advocacy of this means turned their attention to it, but it met with no permanent favour.

It is remarkable how soon some modes of treatment, of wonderful safety and success, and sometimes supported by high authority, have fallen. In 1852, the Imperial Academy of Medicine, in Paris, *crowned* the work of Reybard, entitled *Traité Pratique des Retrécissements de l'Urètre,* and bestowed upon him the great Argenteuil prize of 12,000 francs. The committee of the Imperial Academy was composed of MM. Ricord, Robert, Roux, Gerdy, Bouvier, Huguier, Laugier, Larrey, and Grissolle. Their report says, "en résumé, l'expérience et le raisonnement sont d'accord pour classer l'opération de Reybard parmi les conquêtes de la chirurgie moderne."

The operation of M. Reybard consisted in dividing, by means of an instrument of his own invention, the whole thickness of the urethral walls, not only at the stricture, but an inch before, and an inch behind: the wound usually is about three inches in length. In order to prevent union by first intention a full-sized bougie is to be passed twice a day for at least thirty or forty consecutive days. "The production of granulations being thus insured, a piece will be formed in the urethra to permanently enlarge it."

In May, 1855, this same operation of Reybard was discussed in the Société de Chirurgie; M. Ricord, one of the committee who gave the prize, as will be noticed, said that it was not given for the *affreux instruments* of Reybard, that he had voted for everything in his book, except for urethrotomy; adding "that when instruments can be introduced the patient can urinate himself, and this should satisfy the surgeon, and be enough for the patient." M. Debout had sought what the surgeons of Lyons, where Reybard resides, thought of the practice, and, "to their knowledge, it had afforded deplorable results in the hands of the inventor himself, and of those who had imitated him. Long ago they had completely abandoned urethrotomy."[1] Three years were sufficient to show that an operation, proclaimed by a committee of as competent men as the world can produce, to be "one of the conquests of modern surgery"—shown to be so "both by reasoning and by experience"—was frightful and followed by deplorable results.

On the 14th May, 1855, a memoir was read to the Academy of Sciences,

[1] The discussion is published in the Gazette des Hôpitaux, May, 1855.

in Paris, by M. Maisonneuve, upon "a new method of catheterism and its application to the radical and instantaneous cure of strictures of the urethra." By this method, we are told, that "instead of an operation embarrassed with complicated instruments, and above all, with long and painful preparatory and consecutive treatment, we have now but a simple and rapid operation, which can be practised completely in a few moments, and which, allowing of the easy use of chloroform, causes no pain to the patient." This is the operation: a fine bougie is introduced into the urethra, to which a grooved urethrotome is screwed, and pushed in; the bougie conducting it, and remaining coiled in the bladder. In the groove of the urethrotome cannelé, a small cutting blade is introduced and pushed from one end to the other, so as to divide all the strictures at once. The urethrotome cannelé is then withdrawn, and the *urethrotome caché* is introduced without difficulty. When the *urethrotome caché* is in, the bascule is pressed upon so as to make the blade project, and the instrument is withdrawn, so as to cut at once and deeply all the strictures. Then, to be sure that the operation has effected its object, a full-sized metallic bougie is introduced into the urethra, and at once withdrawn. This done, the patient is left alone; he immediately urinates in a full stream and almost without pain; the slight smarting (!) which takes place at the moment of the emission of urine, disappears at the end of a few days. M. Maisonneuve, from motives of prudence, engages his patients to remain a few days in bed, to take a bath and demulcent drinks, but sometimes they have gone at once to their ordinary mode of living, without the slightest inconvenience resulting. This pretty fiction of M. Maisonneuve perished far more rapidly than that of Reybard. Ficta omnia celeriter, tanquam flosculi, decidunt, nec simulatim potest quidquam esse diuturnum.

All operations, for the relief of stricture, by incisions, whether they be performed from without inwards, or from within outwards, upon a conductor, or without one, from behind forwards, or from before backwards, have the same basis. They are all performed upon the supposition that by dividing a stricture in which the deposit is very dense, or where there is great irritability, and by not allowing the incision to unite by first intention, that the stricture will be cured. The operation by internal incision has been performed in every variety of ways, and by men of the greatest skill. So far as the cure of the affection is concerned, the result has been unfavourable, for the stricture gradually, and we believe invariably, returns. Moreover, experience shows that it is attended with risk to the life of the patient. Under these circumstances, a prudent surgeon will not perform it.

Another method of treating stricture, that by external incision, remains to be considered. The external division of the diseased canal has always, we might say, been resorted to in certain severe and intractable cases, but within the past few years the attention of surgeons has been particularly called to it. Until within this time it was a proceeding limited entirely to cases of *impassable* stricture. It must not be supposed, however, that simple impermeability to an instrument was supposed to justify what is now called by some the *old operation* of perineal section. It was only performed when a considerable extent of the urethra was so contracted that the urine only passed in drops, and the irritation, local and general, was wearing away the patient. Or, again, when the urethra had given way behind a close stricture, and infiltration of urine and suppuration had taken place, and the patient thereby brought into such a state that his life is endangered. The chapter in which Mr. Smith treats of this operation is quite a remarkable one, for it is rare to

find so much good advice given with so much clearness, and so forcibly illustrated by examples.

Of late years, however, the operation of laying open the urethra in the perineum has been urged in cases of permeable strictures. To Professor Syme, of Edinburgh, belongs the credit of having brought it prominently before the profession. It is an operation which has been extravagantly praised and violently condemned. After studying carefully all that has been written on both sides of the question, we think every one will reach the same conclusion as that reached by Mr. Smith, and which has prevented him from ever performing the operation.

"That it has appeared to him to be unnecessary to subject a patient to an operation which may destroy life unless a very pressing emergency exists; and this, in his opinion, does not obtain, except under rare circumstances, so long as an instrument can be passed through the stricture."

The July number of this *Journal* for 1853 contains a report of the paper read by Professor Syme before the Medico-Chirurgical Society of London, and in which is a full description of the operation. At that time he stated that he had performed the operation upwards of seventy times without any fatal or alarming consequences. The work of Mr. Thompson, to which we have already referred, testifies strongly in its favour; he gives a list of one hundred and fourteen cases, of which only four were fatal; and he declares that in these four cases death was not caused by any accident peculiar to the operation, or necessarily connected with it, but by one which is known to attend incisions and lacerations of any kind; the cause of death, he says, was undoubtedly pyohæmia.

On the other hand, Mr. Wade declares that, in London, the operation is nearly as fatal as the operation of lithotomy; and, as to the ultimate effects, the stricture returns with nearly its original severity. The editor of the *Lancet* (3d September, 1853), writes thus: "In a word, we consider what is called Mr. Syme's operation for the cure of stricture to be the greatest opprobrium of surgery of the present day. Any surgeon who destroys the life of a patient by the performance of that operation ought, in our opinion, to be indicted for manslaughter." Words are insufficient to express Professor Lizars' reprobation of the operation, and, in his work, plates are given to show the "lamentable condition" of several patients after the perineal section.[1] In Great Britain, it seems to have been impossible to write coolly and dispassionately on the subject of Professor Syme's operation. In the *Archives Générales*, 4th Series, vol. xxix., is a paper upon it, with a review of English works on the subject, by Dr. Follin. He has found, and he is a man of great industry and accuracy, that the mortality of Syme's operation is one in five. "Hence," he adds, "it must only be proposed in excessively rebellious cases, and which threaten to become complicated with serious accidents."

There are many points connected with Mr. Syme's operation, which, though of much interest, we pass by without mention. There is one thing, however, we would wish to refer to, for it is connected with many other operations, as well as with that particular one of which we are writing. Professor Syme first performed his operation because his patient "protested that life was not desirable under the torment of his complaint," and demanded relief, "no matter at what expense of pain or risk of danger." Now we

[1] Practical Observations on the Treatment of Stricture of the Urethra and Fistula in Perineo, 3d ed., by John Lizars, Edinburgh, 1853.

hold that the responsibility of an operation always rests upon the surgeon. It is he who is to judge as to the propriety of performing an operation, and the protestation of a patient, or of a patient's friends, as is sometimes the case, as to his weariness of life, should not influence the surgeon in his decision. The risk of danger can never be put aside, and it is this which is to decide the surgeon, when his interference is sought; if the danger attending his attempts to relieve be greater than that attending the disease, the surgeon should refuse to operate. When life is threatened, and death without his assistance is sure and imminent, he cannot act too daringly; but no matter how miserable and loathsome life may be, merely because it is so, the surgeon has no right to stake it upon the success of a dangerous operation. There are, of course, circumstances when life should freely be risked, for there are things compared to which life must be held as nought; but never can this be done, because it is wearisome, never, because it is "not desirable." There are cases where the surgeon must be resigned to palliate; and the patient to endure his suffering.

The 11th chapter, and the last, of Mr. Smith's work is upon the treatment of spasmodic stricture and retention of urine. As it is, however, chiefly with reference to the treatment of permanent stricture that we have undertaken the examination of his work, we shall go no further. We will only say that, like the other chapters of his book, it contains much useful advice.

W. F. A.

BIBLIOGRAPHICAL NOTICES.

ART. XIX.—*Reports of American Institutions for the Insane.*

1. *Of the Central Ohio Lunatic Asylum for* 1857.
2. *Of the Southern Ohio Lunatic Asylum for* 1857.
3. *Of the New York City Lunatic Asylum, for the year* 1856.
4. *Of the Bloomingdale Asylum, for the year* 1856.
5. *Of the Vermont State Asylum, for the fiscal year* 1856–7.
6. *Of the Western Lunatic Asylum, of Virginia, for the two years ending on the* 30*th September*, 1857.
7. *Of the Retreat, at Hartford, for the fiscal year* 1856–7.
8. *Of the New York State Lunatic Asylum, for the year* 1856.
9. *Of the Massachusetts State Lunatic Hospital, at Worcester, for the year* 1856.
10. *Of the New Hampshire State Asylum, for the fiscal year* 1856–7.

IF there be any of our readers who have followed us, in our notices of the reports of the institutions for the insane in the United States, during the last fifteen years, they will probably recollect that, more than once, we have seized an occasion to express our admiration of the beneficent and nobly liberal spirit with which the State of Ohio first stretched forth her hand to shelter, to restore, and to save those unfortunates among her children who suffer from mental alienation. Of all the sister States of this Union, she was the first perfectly to act the Good Samaritan, by literally taking her afflicted *protégés* to her own house, and there gratuitously ministering to their wants. In plain and practical terms, she, first of all, paid from her own purse the bills of all the current expenses of her Asylum for the Insane. Year after year that institution pursued its progressive course, flourishing under her fostering policy, and under the able administration of Dr. Awl, its *comparatively permanent* superintendent.

It is now some six or seven years since it became evident that the machinery of the Asylum at Columbus was not working smoothly. Those evidences became more and more manifest as time progressed, and, since the opening of the two new asylums—at Newburg and Dayton—have been so conspicuous in the three institutions, that "he that runs" could not fail to read them. Officers have been compelled to resort to novel expedients for raising the funds necessary for the current expenses of the establishment under their charge. Superintendents, like the leaves of most of their forest trees, have been *deciduous*, falling, and giving place to others, in some instances oftener than the popular change of almanacs. A law, at one time, has been enacted, by virtue of which, "at one fell swoop," all the principal offices not only of the asylums for the insane, but of the other State charitable and benevolent institutions as well, became vacant. At length, in the reports for 1856, from the asylums at Columbus, Newburg, and Dayton, we had a picture, simultaneously drawn, of the glaring deficiencies and defects of those three establishments; a picture which was in part transferred to our notices of those reports.

Effects so general cannot spring from a cause which, in its origin, is specific to any one of the institutions. An influence so pervading throughout the ramifications of a philanthropic scheme, must be seated near the centre whence issues the vitality of that scheme. Hence, when we have inquired—as we *have* done more than once—for the origin of the difficulties at the Ohio institutions, we have not been surprised by the answer—"Politics." We were prepared to place confidence in this answer by previous observation in another State. We had seen the principal offices in benevolent institutions filled and vacated without the least reference to the special fitness or unfitness of the candidate

and the incumbent. We had seen many and mournful evidences of carelessness, inattention, and heedlessness of duty, upon the part of administrative officials, and it has appeared to us that such are the inevitable results of a connection of philanthropic institutions with the partial and unstable policy of partisan politics, whereby the true interests of those establishments, and the welfare of their inmates, are lowered to a position of secondary importance. Under these circumstances, and with these views, we have believed it right, when reviewing the reports of latter years from the Ohio asylums, freely to express our opinions, perfectly willing that they should pass for just what they are worth, and no more. If those opinions be erroneous, we are open to conviction of our error. If we have been misinformed in regard to the source of the various novelties, eccentricities, difficulties, and defects in the official departments, the management, and the *material* of those asylums, we shall be glad to be corrected.

Hitherto we have received reports for 1857 from but two of the Ohio asylums. In the perusal of these, we have been induced to believe that a better day has dawned upon those institutions. We here have unmistakable indications of a strenuous effort, upon the part of all whose efforts are necessary to the result, to elevate them to the rank which they ought to hold among their sister institutions in other States. We joyfully hail the auspicious omen, and look forward, not indeed without anxiety, for the fulfilment of its promise.

1. From the report by Dr. Hills, of the Central Ohio Asylum, we extract the following statistics:—

	Men.	Women.	Total.
Patients at the commencement of the year .	102	121	223
Admitted in course of the year . . .	97	98	195
Whole number " " . . .	199	219	418
Discharged, including deaths . . .	80	79	159
Remaining at the close of the year . .	119	140	259
Of those discharged, there were cured .	52	59	111
Died	21	11	32

"The general health of the institution during the past year has been very good. The exceptions to this fact are chiefly in the occurrence, during the last winter and spring (1856–7), of a number of cases of erysipelas; and, during the summer, a number of dysentery. The former prevailed to a considerable extent during a few months, but the cases were very amenable to treatment; that which invariably afforded prompt relief being iced water applications, diligently applied. The attacks were mostly about the head and face, though some were elsewhere, in the seat of wounds, or other localities."

The proportion of recoveries, from mental disease, is very large. Dr. Hills attributes this in part to the greater number than usual under treatment, and in part to other causes, of which "one of the most prolific is the greater amount of occupation given to the mind and hands, in a variety of useful labours. * * * * The number employed during the past season has been vastly increased, oftentimes numbering thirty, forty, or fifty (men), in parties of from three or four to ten or twelve. With recent or curable cases the convalescence has oftentimes been immediate and rapid. The healthfulness in that class has also been apparently increased, as not a death, or serious case of illness, with only one exception, has occurred among those that habitually laboured in the open air. While the above number of males have been occupied with suitable manly employment, an equal or greater number of females have been engaged in pursuits to which they are adapted. Thus has the asylum oftentimes presented an appearance of bustle and activity, both without and within, that precluded the possibility of many being considered as drones."

"All public days are properly observed. * * * * The fourth of July was an eventful and ever-to-be-remembered day. The asylum was then literally evacuated, there being 225 patients gathered at one time in the grove, for an old-fashioned celebration. The ceremonies were similar to those of most other assemblies convened upon our national holiday."

As our last notice of this asylum exhibited, in the language of its report, some of its *material* defects, it is but fair that some of the *material* improvements of the past year be here recorded. A new barn, forty by fifty feet, has been constructed, and the old barn newly covered, inclosed, and "the interior fitted up in the most commodious manner." A brick edifice, "eighty feet long, thirty feet wide, two stories high, with a side wing one story high, and fifty feet long by twenty feet in width," has been erected for a boiler-room, engine-room, pump-room, wood-house, and carpenter shop. The apparatus for supplying the buildings with steam, hot water, and cold water, has been extensively repaired and improved. The "old lodge building" is nearly completed, in its conversion into a green-house—"the work being in a large share done by the patients." "Much has been done toward getting the front grounds into better order, with carriage drives, walks, arbours, &c. About one mile of carriage drive has been laid out." A fountain has been placed upon the lawn in front of the main building, and the hobby of the present day, an *aquarium*, commenced. "In the interior much has been done to increase the comfort and gratification of the patients. Many more of the ladies' bed-rooms have been carpeted; some of the halls have been repainted; a few pictures have been placed upon the walls; and additional furniture has been supplied." A sofa and rocking-chairs have been put into each of the front halls of the female department, and a dozen substantial settees into the wing-halls. "For the first time in many years the institution is free from debt."

Dr. Hills, when writing of his patients, says: "Even election-day brings forth the ballot-box in the several 'wards.' Fearing that our 'returns' have not been received, it may be proper to say that *there was a small gain in each ward.*" It is to be hoped that, as the doctor has got partisan politics fairly into his wards, he will, in future, be enabled to keep it there, lest it again intermeddle with the organization and the official staff of the institution. In the Board of Trustees of one of the American asylums for the insane, there was, a few years ago, a conscientious, but a very ready-witted member of the Society of Friends. The Board were one day deliberating upon the proper measures of moral treatment to be introduced among the patients. Among other things, *dancing parties* were mentioned. Several of the members having expressed their approbation of them, one of the gentlemen, turning to the "Friend," said—"But perhaps Friend M—— will object to them." "*O not at all, not at all,*" replied the "Friend," "*a mad-house is exactly the place for dancing.*"

2. The report for 1857, by Dr. McIlhenry, of the Southern Ohio Lunatic Asylum, shows that he is not only zealously studying the disease to the treatment of which he has been called, but that, in this study, he has "got hold of his pitcher by the right handle." His elaborate analysis and classification of the cases treated, manifest a disposition to make a scientific use of the materials accruing to him, as a necessary consequence of his position.

	Men.	Women.	Total.
Patients in the Asylum November 1, 1856 .	69	64	133
Admitted in course of the year . . .	74	78	152
Whole number " " . . .	143	142	285
Discharged, including deaths . . .	66	58	124
Remaining, November 1, 1857 . . .	77	84	161
Of those discharged, there were cured .	44	33	77
Died	7	6	13

Causes of Death.—Mania 3, consumption 2, decay from old age 1, carcinoma of brain 1, gangrene of lungs 1, hydrothorax 1, hypertrophy of heart 1, valvular disease of heart 1, apoplexy 1, typhoid fever 1.

"During the entire season we have been exempt from not only the diseases incident to our neighbourhood, but from any of those special maladies which frequently find their way into hospitals and crowded institutions."

"The house has been full to repletion throughout the entire year. One hundred and forty patients are as many as ever, at one time, should be crowded

into our halls. * * * * The average throughout the entire year has been about one hundred and fifty."

From Dr. McIlhenry's remarks upon various topics in relation to insanity, we make the subjoined extracts:—

"Every day's experience among the insane more fully demonstrates to me not only the necessity of providing them with abundance of good food, but of allowing many of them a free indulgence in the use of such food. It is a disease that not only has a tendency to exhaust the system, but it has a strong disposition to impoverish the blood, and vitiate, to some extent, all the secretions. Nothing, therefore, can so well supply this deficiency, and correct those morbid tendencies, as good substantial food, and a sufficiency of it.

"In a great measure, we have abolished from the discipline in this institution the restraint system; depending upon moral and intellectual action to control our patients. It is true that we occasionally have to so confine the hands of some that they cannot injure themselves or others; but in nine-tenths of our cases even this restraint lasts but a short time. By kindly care and culture, they soon learn to conform to reasonable rules and regulations, without fear or coercion.

"In the care and treatment of the insane, I am fully convinced that the nearer we approach a family relation, the better. It is an easy matter to *keep* them; but there is another consideration, much more important, devolving upon those having them in charge. Socially, they have wants which suffer, and will finally die out by confinement, if not properly and timely cared for. The flagging energies of their minds must be supported by a proper cultivation of kindly feelings; and their whole mental system must be kept alive by that familiarity and frankness which, where properly applied, constitute the basis of true health and happiness. It is not the best class of patients who demand from us the most attention. They are better able to make known their wants, and do much towards taking care of themselves. But it is those who, perhaps, when admitted, or from long-continued insanity and neglect, have sunk into almost hopeless dementia—their minds little else than a blank, their physical energies often not sufficient, alone, to produce locomotion. By persevering efforts and discipline, it is sometimes astonishing to witness the change which takes place in such cases. From months of continued depression of mind, you will have the satisfaction of witnessing such persons not only brightening up, and being much improved, but occasionally they will return to an entire healthy mental condition. We have had two recoveries from this state of mind take place in this institution: one who had been insane two years, and who scarcely ever spoke; the other, whose insanity existed nearly as long, and who never uttered an audible word for nine months, and who never moved from her seat without compulsion, and never ate a mouthful only as she was fed. Both are now, after an absence from the institution of one year, remaining well, and able to attend to their ordinary duties."

In amusements, "it is mostly through the eye and ear that melancholy and demented patients can be reached. It is in such cases that music and dancing perform an admirable part. The power of music on such minds must be seen to be fully appreciated. The physical effect alone of dancing, upon persons thus affected, by arousing the sluggish and, in many cases, almost dormant capillary circulation, is of immense value; besides the stimulating effect produced upon the mind by such exercise."

It is stated that, of the 152 patients admitted in the course of the year, 36 had the suicidal propensity. Twenty-six attempted self-destruction; the remaining ten merely threatened it. In our experience, we never found but one patient in whom the propensity really existed that ever threatened to commit suicide. Such threats have not unfrequently come from patients who would be among the very last to put the threat into execution. Of the 26 abovementioned who attempted self-destruction, 30 attempts are recorded; they were 9 by cutting, 8 by submersion, 3 by suspension, 3 by leaps from windows, 2 by shooting, 2 by strangulation, 1 by burning, 1 by starvation, and 1 by poison.

Of the 381 patients received since the opening of the asylum, it is asserted

that a hereditary predisposition to mental disorder existed in 111, or 29.13 per cent. But from a table showing the precise relationship, to 91 of these patients, of their kindred who had been insane, it appears that in only 41 cases were the direct ancestors so affected. In all other instances it was collateral relatives. It need not be remarked that it is not fairly to be inferred that a man is hereditarily predisposed to insanity, because he had a "cousin by his father's side," or a "grand-aunt," who was insane.

Twenty-one persons had insane brothers or sisters. In only one case had both the parents of a patient been insane. In nineteen other cases, 7 males and 12 females, the father was insane; and in fifteen other cases, 2 males and 13 females, the mother. "Three patients, a father and two daughters, were inmates of the house at one time. There are also two sisters, members of whose family have exhibited symptoms of insanity during four generations."

3. Our notices of former reports from the New York City Lunatic Asylum have sufficiently indicated the vast ameliorations made at that institution since it passed under the superintendence of Dr. Ranney. The march of improvement has continued during the year 1856, and a very considerable interest in the establishment appears to have been awakened among the citizens of New York, manifested by contributions to its means of moral treatment.

	Men.	Women.	Total.
Patients in the Asylum, January 1, 1856 .	238	335	573
Admitted in course of the year . . .	149	217	366
Whole number	387	552	939
Discharged, including deaths . . .	135	207	342
Remaining, December 31, 1856 . . .	252	345	597
Of those discharged, there were cured .			174
Died	32	34	66

The *percentage* of deaths is smaller than that of any preceding year. "Although," remarks Dr. Ranney, "the general mortality has been so much diminished, yet, in a few diseases, there has been a decided increase, especially in that known as 'paralysie générale.' This fatal disease, which but a few years ago was described as rare, has increased to such an extent in the city as to have been the cause of nearly one-fourth (15 of 66) of all the deaths in the Asylum the past year. It seems to result from a disorganization and softening of the cortical portion of the brain, involving, if the disease be protracted, the medullary substance. Almost universally certain in its results, its victim seldom survives a longer period than two years after the first symptoms are exhibited. Indeed, so fatal is it in its character, that in no case have I seen recovery follow, where the symptoms were sufficiently well marked as not to admit of doubt. High living, late hours, and strong mental excitement, combined, have been considered the most frequent causes of the disease.

"The past year has been entirely free from the ravages of any epidemic; and no suicide, homicide, or unfortunate accident has occurred in our midst, demanding an inquest."

The use of the mechanical means of restraining the body and limbs of violent, destructive, and suicidal patients, is now almost wholly abolished at this institution. The history of the past year, as recorded in the extract just quoted, is one evidence, in addition to many others of antecedent date, that the less those means are employed the fewer is the number of suicides. "The experience of the last year," says the General Report of the Royal Hospital of Bridewell and Bethlem, for 1843, "adds another confirmation to the now generally received opinion that mechanical restraint is an exciting cause for suicidal propensities; and though it may for the time restrain the attempt, it fortifies and strengthens the desire it is intended to control. * * * * From 1750 to 1770, *when every patient was under restraint*, the suicides were in the proportion of 1 to 202; whereas during the last twenty years the proportion has been only 1 in 963."

In the course of the last ten years, there have been ten suicides at the New

York City Lunatic Asylum. We are not informed of the years in which they severally occurred. It would be interesting to trace them in connection with the gradual diminution of coercive and restraining measures, and ascertain the relation which the one bears to the other. That the suicidal impulse, otherwise often transient or even momentary, may be, as expressed above, confirmed by the adoption of restraining apparatus, we have no doubt. Feuchtersleben relates the case of a man who, "being on the point of committing suicide, wanted to quote the passage '*Quand on a tout perdu*,' &c., and being in doubt whether it was by Voltaire or Molière, forgot his design." Now, had the leather muff and waistband, or the strait-jacket come to the relief of this man, instead of that to him fortunate quotation, there can be but little doubt that his impulse would have been perpetuated to a fatal result.

The progress in the number of the inmates of the institution, the report of which is before us, is shown by the subjoined table:—

December 31, 1826,	patients	in	the	Asylum 89
" " 1836,	"	"	"	 143
" " 1846,	"	"	"	 383
" " 1856,	"	"	"	 597

A condensed statistical account of the medical history of the Asylum from the first of January, 1847, to the 31st of December, 1856, is included in the report. We extract some of its most important details:—

	Men.	Women.	Total.
Number of patients, January 1, 1847 .	171	212	383
Admitted in ten years	2,090	2,293	4,383
Whole number	2,261	2,505	4,766
Cured			2,105
Died	593	646	1,239
Single	1,108	1,058	2,166
Married	875	966	1,841
Widowed	107	269	376
From 20 to 30 years of age . . .	677	857	1,534
From 30 to 40 " . . .	677	675	1,352

Causes of Death.—Consumption, 332; chronic diarrhœa, 173; cholera (Asiatic), 169; paralysie générale, 78; congestion of brain, 60; paralysis, 48; epilepsy, 44; dysentery, 34; dysenteric diarrhœa, 33; diarrhœa, 31; old age, 29; apoplexy, 27; typhomania, 24; typhus fever, 18; typhoid fever, 17; dropsy, 13; delirium tremens, 10; erysipelas, 8; suicide (by suspension 6, submersion 3, strangulation 1), 10; marasmus, 6; inflammation of brain, 6; hemiplegia, 4; organic disease of heart, 4; pericarditis, 3; ascites, 3; inflammation of lungs, 3; albuminuria, 3; softening of the brain, 3; carcinoma, 2; scurvy, 2; dry gangrene, 2; chronic peritonitis, 2; stomatitis, 2; hydrothorax, 2; chronic pleurisy, 2; acute meningitis, 2; lumbar abscess, 2. Twenty-three other diseases are mentioned as having been the cause each of one death; but they are maladies and accidents which, with the exception of hydrocephalus, serous apoplexy, and inflammation of the spinal marrow, are not seated in the great nervous centre.

Of the whole number of patients (4,383) admitted, only 1,023 were natives of the United States, while 3,360 were foreigners. The subjoined table includes the names of those countries from each of which there were more than nine:—

Ireland	2,142	Switzerland	21
Germany	649	Canada	16
England	261	Wales	14
Scotland	72	New Brunswick . . .	11
France	52	Italy	11
Prussia	22		

The remainder were from twenty-seven different countries and colonial islands, with the exception of two, who were natives of the "Atlantic Ocean."

The immigrants from Ireland furnished no less than 48.87 *per cent.* of the whole number of patients.

4. Dr. Brown, of the Bloomingdale Asylum, in his report for 1856, has not departed from his customary brevity in these annual publications.

	Men.	Women.	Total.
Patients in the Asylum, January 1, 1856 .	56	71	127
Admitted in the course of the year . .	73	61	134
Whole number	129	132	261
Discharged, including deaths . . .	65	52	117
Remaining, December 31, 1856 . . .	64	80	144
Of those discharged, there were cured .	35	19	54
Died	10	9	19

Causes of Death.—General paralysis, 1; phthisis, 3; chronic bronchitis, 1; inanition, 2; apoplexy, 2; epilepsy, 1; acute inflammation of the brain, 2; chronic disease of the brain, 3; dropsy of the chest, 1; exhaustion after dysentery, 1; carbuncle, 1; suicide, 1.

"The health of the household, as a family, has been uniformly good; and the general condition of the patients as satisfactory as the peculiar construction of the institution permitted."

Dr. Brown recommends the extension of the "lodge" for females, so as to connect with the main building; and the introduction of the system of heating by steam.

In our notice of the Bloomingdale report for 1855, we made some remarks upon the imperfect organization of that Institution, its need of an Assistant Physician, and the defective method of heating the apartments of the principal edifice. Since the publication of that notice, the office of Assistant Physician has been created, and Dr. Corey elected as the first incumbent. The other two objectionable matters remain *in statu quo erant;* but as one important step in the right direction has been made, we hail the fact as an auspicious omen for the future.

	Men.	Women.	Total.
5. At the Vermont Asylum for the Insane, the number of patients on the 1st of August, 1856, was	190	217	407
Admitted in course of the fiscal year . .	64	83	147
Whole number	254	300	554
Discharged, including deaths . . .	62	79	141
Remaining, August 1, 1857 . . .	192	221	413
Of those discharged, there were cured .			74
Died			37

In relation to the treatment of insanity, Dr. Rockwell says: "Whenever any physical disease can be detected, it is treated as in other states of the mind. The moral treatment consists chiefly in pleasant and useful employment, and especially that which requires sufficient physical exercise. We always endeavour to employ both sexes according to their former habits and tastes. After all, much depends upon the faithfulness of kind and intelligent nurses, wholesome and nourishing diet, proper ventilation, the different kinds of bathing, sufficient exercise in the open air—either by riding, walking, or cultivating the garden and farm, and all such agreeable employment of the mind and body as shall promote physical health and call into exercise those faculties of mind that are unemployed. * * * * * If the minds of many of the insane are allowed to remain inactive, they will soon become demented, and manifest a brutish indifference. Sometimes, when confined without any employment, they become fretful and irritable, destroying their clothes and other property, and hasten to an incurable state. But let some useful and agreeable employment be furnished them, and they will be pleasant and

cheerful through the day, and enjoy refreshing sleep at night. In this manner the mind and body will become invigorated, and reason will be restored."

6. In the last biennial report of the officers of the Western Lunatic Asylum of Virginia, the Trustees say:—

"During the latter part of the last year, our well-known Physician and Superintendent, Dr. Francis T. Stribling, having conceived a wish to return to the general practice of his profession, tendered a resignation of his office in the Asylum, to take effect on the first of January last. The Board heard of this determination with profound regret, both personal and official; and to convey to Dr. Stribling, in a lasting form, their sense of his 'long and faithful services to the State, and invaluable benefactions to afflicted humanity,' they resolved to present him with a piece of plate in token thereof. This resolution was subsequently carried into effect, not, however, before urgent solicitations from all quarters of the State—and many of them of a most affecting character, from those who had themselves been objects of the doctor's care—had induced him to abandon his intention of severing his connection with the Asylum; and the board have thus the gratification of feeling that a tribute which at one time they feared was to crown the period of the doctor's services to the State, now serves but to mark a point in his career of public usefulness."

Dr. Stribling remarks, in reference to the period over which his report extends, that "not only has the Institution been almost constantly crowded, but we have again been compelled to reject many, very many applicants for admission."

	Men.	Women.	Total.
Patients in the Asylum, October 1, 1855 .	226	162	388
Admitted in course of two years . .	81	55	136
Whole number " " . . .	307	217	524
Discharged, including deaths . . .	79	56	135
Remaining, September 30, 1857 . . .	228	161	389
Of the patients discharged, there were cured	29	33	62
Died	32	14	46

The progress of this Institution is measurably indicated by the following statistics of the number of its patients in the course of a fiscal year, at four periods: in 1828, *thirty-six;* in 1837, *seventy-seven;* in 1847, *two hundred and fifty-six;* and in 1857, *four hundred and fifty-five.*

In a letter to Governor Wise, published in this report, Dr. Stribling triumphantly vindicates the course which he has pursued in the admission of patients under those trying circumstances in which the number of applications far exceeds the ability of accommodation. In the course of this letter, the Dr. bears testimony to the comparative disadvantages of large institutions. "I can but think," says he, "a great error was committed in enlarging this Institution to its present dimensions, but take to myself a large share of the blame resulting from such error."

Two conflagrations are recorded in this report. The first, of a detached building for the worst class of females, on the 8th of November, 1855; and the second, of a similar building, for a like class of males, on the 18th of October, 1856. The former occurred from a defective chimney; the latter is attributed to incendiarism by one of the patients. No patient was injured. "The roofs of both buildings were entirely destroyed before the flames could be subdued. We then experienced the great value of counter-ceiling; and had we ever doubted before its necessity, are now satisfied that it should never be dispensed with. But for the fact that these buildings had thus been constructed, the fire must have communicated with one or both of the stories below, and consequently the damage have been far greater."

7. The most important of the statistical records of the Hartford Retreat, for the fiscal year, ending with the 31st of March, 1857, are as follows:—

	Men.	Women.	Total.
Patients at the beginning of the year .	98	99	197
Admitted in the course of the year .	73	88	161
Whole number	171	187	358
Discharged, including deaths . .	72	80	152
Remaining at the end of the year .	99	107	206
Of those discharged, there were cured .	34	37	71
Died	5	9	14
Whole number, from 1824 to March 31, 1857	1,478	1,644	3,122
Discharged, recovered			1,534
Died			322

Causes of Death this Year.—Exhaustion, 6; general debility, 2; general paralysis, 2; pneumonia, 1; phthisis, 1; suicide, 1; paralysis, 1.

Dr. Butler, commenting upon the premature removal of some rapidly convalescing patients, whereby injurious and in some cases incurable relapses were produced, says: "As the Institution possesses no power to retain a patient contrary to the wishes of their legal or natural guardians, I can only lament that friends should so often mistake *temporary* results for *permanent* restoration—the remission of the disease for its entire removal. It would be often quite as reasonable to expect fair weather from every lull in the storm. Thus, every year, by the unwise interference of friends, additions are made from among our convalescing patients to our sad list of incurables. Some ten or twelve of those discharged improved, ought to have been on the list of recovered. We can only look for a remedy to a better appreciation of our curative means, and to a more correct knowledge of the disease.

"There is one important improvement among practitioners at large which I am gratified to notice. It is now a rare occurrence that I find maniacal patients have been bled previous to admission. Of nearly two thousand patients who have been under my charge, I have not found it necessary to resort to bloodletting for insanity in a single case. My confidence in the lancet as a curative means, has in no way diminished where the symptoms of the disorder indicate its use. My experience tallies with that expressed in the excellent work upon this subject from the pen of my estimable friend, Dr. Earle. I refer with confidence to that volume.[1] Cases of mania which have been bled previous to admission, I have invariably found difficult of treatment, protracted in their recovery, and sometimes sinking into hopeless dementia."

A description of the new "Lodge" for the violent class of female patients, was mentioned in our notice of Dr. Butler's report for 1854–5. A new one for the same class of men, has now been completed. "A valuable addition was made to this by the construction of a second story. At a comparatively small expense, ample accommodations for twenty additional patients have been obtained. The centre and partition walls of the eight rooms upon the first story, were carried up through the second, giving us eight rooms of the same dimensions of those below, being eight by eleven feet. One of these is appropriated for the attendant, and two others for the bath and clothes rooms, leaving five single rooms for the patients. There then remained a large room (sixteen by eighty-four feet), which was divided into three nearly equal parts by partitions, in part of plank and part of lattice; the centre room (sixteen by thirty) for a parlor, the other two (sixteen by twenty-seven) for dormitories. The three, being practically thrown into one at night, by the lattice doors, afford ample space for fifteen beds."

In respect to the convenient and ornamental furnishing of the hospital wards, Dr. Butler says: "I have aimed to inculcate the doctrine upon the friends of patients and upon all visitors, that insanity should be treated like other diseases, and so to arrange and decorate our wards, that they shall as nearly as possible resemble the chambers of illness in our own homes, believing that whoever has brought himself to consider a disease of the brain as differing only in *degree*

[1] Earle, on Bloodletting in Insanity.

from a disease of the lungs, 'has robbed it of that mysterious horror which forms its chief malignity.'" Donations in money to the amount of $716 00, for the purpose of decoration above mentioned, are acknowledged, and the following remarks are made in reference to its appropriation: "I have thus been enabled to purchase, in all, over two hundred prints and engravings, which have been handsomely framed, and between twenty and thirty county, State, and national maps. These have been distributed throughout our fifteen wards (lodges included), excepting two halls in the north and two in the south wings, where I have not thought best to introduce them. Over one hundred of these have hung upon our walls upwards of two years; most of the others were added early in the winter. To this day, not one of these has been in the least injured! Our visitors can bear testimony to the lively and home-like character which they have imparted; but only those who are daily conversant with our household, can fully appreciate their happy and grateful influence."

8. We extract the subjoined items from the published record of the New York State Lunatic Asylum:—

	Men.	Women.	Total.
Patients in the Asylum Nov. 30, 1855 .	230	225	455
Admitted in the course of the year .	141	101	242
Whole number	371	326	697
Discharged, including deaths . . .	140	96	236
Remaining, Nov. 30, 1856	231	230	461
Of those discharged, there were cured .	59	41	100
Died	22	8	30

Causes of Death.—Exhaustion from mental disease, 7; general paralysis, 6; phthisis pulmonalis, 5; epilepsy, 2; malaria cachexia, 2; suicide, 2; chronic nephritis, 1; fibrinous concretion of heart, 1; ovarian dropsy, 1; remittent fever, 1; gangrene of lung, 1; old age, 1.

"The only disease which prevailed to any extent, was a form of continued fever, slightly remittent at the commencement of the attack, but which soon assumed a marked typhoid type. The first case appeared in the latter part of July, and was immediately followed by others. The peculiar features of the disease, and the fact that these cases occurred in dormitories in the immediate vicinity of the main sewers, led us to suspect the existence and operation of some local cause. A close examination resulted in the discovery of numerous rat holes opening directly beneath the windows of these dormitories, and communicating with the main sewers." * * * "No new cases occurred in these localities after the removal of this source of atmospheric poison. Afterwards, however, in the wards where the workmen were engaged in relaying partially decayed floors, and removing the old wash and bath-rooms, the fever reappeared, and though every precaution was taken, * * * * cases continued to occur until the repairs in these wards were entirely completed. * * * Of the twenty-six cases of fever, three died—one patient, and two of our most valuable employees."

Some of our readers may perhaps recollect that a system of forced ventilation, by means of a revolving fan, has been introduced into the female department of this Asylum, and that, in his report for 1855, Dr. Gray published a table of the acute diseases which prevailed in the departments of the two sexes, as illustrative of the hygienic advantages gained by the improved ventilation. We extract a similar table from the report now under notice:—

Male Department.		Female Department.	
Continued fever	17	Continued fever	6
Intermittent fever . . .	4	Intermittent fever	2
Erysipelas	4	Erysipelas	1
Dysentery	6	Simple fever	3
		Dysentery	1

"Through the summer and autumn, diarrhœa prevailed more or less among

the male patients, while, on the other side of the house, but seven cases occurred throughout the entire year.

"Among the cases of fever, in some instances there was a subsidence in the activity of the mental affection during the attack, while in others there was no appreciable abatement. The larger number of cases occurred in persons who had been but a short time residents of the Institution, and, as frequently observed by those familiar with insanity, several recent cases of insanity began to improve simultaneously with the invasion of bodily sickness. In one case of melancholia, and three of acute mania, the improvement continued until their final restoration."

The subjoined extract is made for two reasons: First, that the still-continued barbarities towards the insane may widely be made known, in the hope of hastening the day of their total extinction; and second, to demonstrate the superiority of hospital treatment.

A thing difficult of accomplishment by a person ignorant of the proper method of performing it, is often easily done by one who knows how to do it. The sage men gathered together with Columbus thought so, and said so, after he had balanced the egg upon its smaller end.

"In one county where all the insane were, during the year, committed to the care of the Superintendents (of the poor), all were placed in the poor-house for *medical treatment*. Application was made to the Asylum for but one, and in this instance, not until *a continuous confinement in iron handcuffs and footlocks, and being chained to the floor for six months*, had failed to subdue the patient. Then the officer wrote: 'We have a man so violent and dangerous that we wish to place him in the Asylum.' He was brought to us in the irons above mentioned, which were so firmly rusted that they could not be unlocked, but had to be filed off. *This man has worked steadily on the farm, and with the carpenter at his trade, since the day after his arrival.*"

"Eighteen males and fifteen females (of the 242 admitted), manifested a strong suicidal disposition, and one of the former and three of the latter, were, at the time of admission, suffering from wounds more or less severe, inflicted for the purpose of self-destruction. In one male, an irresistible impulse to homicide, with perfect consciousness of the tendency, was the prominent symptom in his case. In one male and two females, the same homicidal disposition was conjoined with an equally strong suicidal impulse. The latter succeeded in destroying the lives of four of her children at once, severely injured a fifth, and inflicted a dangerous wound upon herself."

The New York State Asylum is not remote from the centre of a very extensive agricultural district, and hence it might properly be supposed that, of its patients, farmers would exceed in number those who have been engaged in any other calling. Of the 242 admitted in the course of the year, 47 were farmers, and 20 farm laborers. No other occupation was represented by a greater number than *seven*. Nevertheless, Dr. Gray expresses the opinion that "farmers, farm laborers, artisans in wood and in the metals, enjoy an exemption from the proportionate frequency (relative to the numbers engaged in each calling) of attack, while persons engaged in literary pursuits, speculators, merchants, are more frequently the victims of mental disease."

Patients admitted from Jan. 16, 1843, to Nov. 30, 1857 . .	4,830
Discharged recovered	2,017
Died	573

Six thousand five hundred and three articles of clothing and of bed and table furniture, were made by the female patients and attendants in the course of the year.

To show the value of a farm and a large kitchen garden in connection with an institution which feeds many persons, and particularly one in which a large portion of the labor of tillage may be performed by the inmates, beneficially to themselves, we take a few from the large number of items of the products, for the year, at this Asylum:—

Potatoes	1,000 bushels.	Cucumbers, early	35 bush.
Green peas	460 "	Cabbage	7,000 heads.
String beans	1,200 "	Celery	6,200 "
Lima beans	500 "	Lettuce	36,000 "
Beets	760 "	Summer squashes	3,600 "
Onions	700 "	Winter squashes	3,600 "
Carrots	1,800 "	Pumpkins	1,200 "
Turnips	1,050 "	Strawberries	1,500 qts.
Tomatoes	500 "	Sweet corn	350 bush.
Cucumbers, pickled	34 barrels.		

9. Dr. George Chandler, who, in the language of the trustees, "for more than ten years had most acceptably discharged the duties of superintendent of the Massachusetts State Lunatic Hospital, at Worcester, retired from that office on the 16th of July, 1856, and was succeeded by Dr. Merrick Bemis, the author of the report now under notice.

	Men.	Women.	Total.
Patients in the hospital, Nov. 30, 1855	168	168	336
Admitted in course of the year	112	129	241
Whole number	296	281	577
Discharged, including deaths	97	114	201[1]
Remaining, Nov. 30, 1856			376
Of those discharged, there were cured	46	51	97
Died	18	17	35
Whole number admitted from opening of hospital			5,197
Discharged, recovered			2,381
Died			590

Diseases proving Fatal in Course of the Year.—Epilepsy, 5; exhaustion from maniacal excitement, 5; consumption, 4; palsy, 4; marasmus, 3; inanition, 3; dysentery, 3; apoplexy, 2; pneumonia, 2; chronic dysentery, 1; diarrhœa, 1; old age, 1; carbuncle, 1.

"Late in the summer there were several cases of dysentery, three of which proved fatal; and in the autumn there were a few cases of fever. There have been also several protracted cases of diarrhœa."

"The popular excitements of the day," says the report, "have not brought to us so many patients as is generally believed by the community at large."

But a short time prior to entering upon the duties of his office, Dr. Bemis returned from a visit to many of the institutions for the insane, in Europe. Stimulated, probably, by what he had seen of the operation of the so-called "non-restraint system" practised in some of the British hospitals, he soon undertook to dispense, as far as he thought best, with the means of seclusion and of restraint which had previously been employed in the hospital. He writes as follows upon the subject:—

"Few of our patients are, or have been, in restraint during the year. Since July last, no 'strong room' has been occupied. Patients often require some seclusion, as one sick of acute disease requires a bed. But those whose malady has made it necessary to resort to such means, have been kept in their own room, the common dormitory of the house; and only in few cases has the furniture been removed, and fewer still have we suffered from much destruction of clothing or furniture. We think that patients who have formerly been exceedingly noisy, filthy, and disgusting during their periods of excitement in the 'strong rooms,' have been, to say the least, more easily controlled, and less troublesome, during similar excitements, when not removed from their ordinary rooms."

The trustees, in their report, thus come in to the support of the doctor.

"Dr. Bemis, since he entered upon his duties, has not, in a single instance,

[1] These figures are given as in the report. The sum of the two items is 211 instead of 201.

made any use of the strong rooms for the confinement of the patients, nor has he as yet found it necessary to employ any extra attendants in the various wards. We are not fully prepared to draw any specific conclusions upon this subject from the experience of the last four months. We are prepared, however, to state the fact, that during that period we have found the patients, as a whole, at our monthly visits, more quiet than during any other four months since our connection with this institution. Occasions have not been rare when, out of some 370 patients, not a single one was subjected to any kind of restraint other than the care of the attendant within the ward. * * * In the last annual report it was stated that of the thirty-six strong rooms, twenty-four had been removed by order of the trustees, and that four large and airy parlours or sitting-rooms had been substituted in their place. Of the twelve strong rooms remaining, the six in the female department have not been used for more than twelve months, and the six in the male department have not been used for the last four months; and the trustees have no doubt that these remaining twelve strong rooms may be removed, and the space occupied by them be appropriated to a much more useful purpose."

In relation to other improvements, Dr. Bemis writes as follows: "In order to procure more intellectual amusement, and make it the means of instruction, a plan is in operation to establish a system of daily, intellectual entertainments—historical readings, with familiar explanations, courses of lectures, and school exercises—thus beginning what we hope may prove a source of pleasure and profit, at least a part of the year.

"We have been trying of late to introduce a system of labor among our patients. So far as we have been able to succeed the result has been gratifying. There seems to be no reason why strong, healthy men or women should not perform some labour at an institution of this kind. It should not be compulsory. If it can be made pleasant and attractive, so that a considerable number will engage in it, I have no doubt that it will be found greatly useful as a remedial measure."

Dr. Bemis does not mention the details of his system of labor, and hence we know not the extent to which he proposes to introduce it. It is well known that when this hospital was under the immediate guidance of Dr. Woodward, the amount of labour performed by the patients was very large. If Dr. Bemis sustains it at the same standard, he will do well.

10. The fiscal year of the New Hampshire Asylum for the Insane terminates with the close of the month of May. In their last report, the trustees inform us that, "in March last Dr. Tyler communicated to the trustees his resignation of the office of superintendent of the asylum, and subsequently, at a meeting of the board, his resignation was accepted, to take effect on the fifteenth day of July next." On the seventh of May, Dr. Jesse P. Bancroft was elected as successor to Dr. Tyler. After enumerating many improvements made in the establishment in the course of the five years last past, the trustees say: "In the execution of these, Dr. Tyler has ever taken a deep interest, and much of their success is due to his sagacity in their device, and his assiduous superintendence of their execution. His fidelity and skill in the management of the patients committed to his care, is evinced by the success which has thus far attended his efforts in their behalf."

	Men.	Women.	Total.
Patients in the asylum, May 31, 1856	77	77	154
Admitted in course of the year	48	49	97
Whole number	125	126	251
Discharged, including deaths	41	40	81
Remaining, May 31, 1857	84	86	170
Of those discharged, there were cured	24	23	47
Died	6	6	12

Causes of Death.—"One of apoplexy, one of epilepsy, and the remaining ten worn out by chronic insanity."

Whole number of admissions from opening of asylum . .	1476
Discharged, recovered	662
Died	140

An addition, called "the Rumford wing," was completed and opened to the patients in the course of the year.

Dr. Tyler's report is brief, and chiefly devoted to matters of local interest.

P. E.

Art. XX.—*Proceedings of Westchester County Medical Society*, at its Annual Meeting, held in the Village of Sing Sing (N. Y.), June 3, 1856. 8vo. pp. 50.

The professional reports embraced in the *Transactions* of the Westchester County Medical Society, though in themselves sufficiently interesting, present but few prominent facts demanding especial notice.

In a report on the medical topography, epidemics and endemics of the southern section of the county, drawn up by Dr. J. D. Trask, of White Plains, the following statements appear in reference to the prevalence of intermittent and remittent fevers, in that portion of country included in the report. They show how little positive knowledge we possess as to the etiology of those diseases:—

"The County of Westchester has, almost without exception, been regarded as unusually healthful. Along the Sound, miasmatic diseases have always prevailed to a certain extent, but within the past four or five years, intermittents and remittents have appeared where they have not been known before within the memory of the oldest inhabitants. This seems to have been due to a wide-spread atmospheric influence, which has passed on northward to regions rarely if ever before affected. Its northern limit, the committee have not, from inquiry, been able to learn.

"An effort has been made to ascertain, as far as practicable, the probable sources of malaria in those neighbourhoods where it always prevailed more or less, before the spread of the general atmospheric influence to which allusion has been made. It does not appear, however, that during the period of this general diffusion of malaria, such diseases have been more prevalent and more grave in places where they have always prevailed; the poison has been diffused through new localities, but not concentrated in old ones.

"Dr. Sands, of Portchester, writes: 'Previous to the last five years, I am not aware of having met with a case of disease of decidedly malarious origin in the neighbourhood. I was in practice here ten years before I saw a case of intermittent; during the last five years, however, cases have abounded. The disease has nearly disappeared, very few cases having occurred this summer. Excavations and drainage have, in my opinion, increased its prevalence. I have observed the disease in the neighbourhood of marshy grounds, particularly on the east of such localities, when the residence is not much elevated above the marsh; this I have attributed to the prevalence of westerly winds.'

"In relation to Mamaroneck, Dr. Stanley says: 'There appear to be certain localities or houses, where intermittent fever has prevailed more than elsewhere, but these seem to me to be so irregularly placed as to forbid the supposition that the ponds of fresh water or the salt marshes certainly produced the increased severity of the disease. The large factory pond was drained in the spring of 1854, and during the summer the channel through the centre of the pond, which had been nearly obliterated, was opened, and the whole surface became quite dry in June. The fever that year was about the same as the year previous, certainly not less. In 1855, the fever in the vicinity of the stream, and also of ponds a few miles off, very much diminished; and no other disease having the marks of an epidemic appeared in its place. The high grounds three or four miles back are not exempt, but are less affected by inter-

mittent disease than the *first low ground back of the first ridge*, which slopes down to the tide water; and *there*, I think, intermittents have been the most prevalent.'

"The occurrence of the disease five or six years ago, as an epidemic, so far as special localities were concerned, was much as above stated; but one great source of its severity and continuance, was a disregard, in particular families, of cleanliness, temperance, and good living, with proper rest of body and mind. The disease increased, and badly, from 1848 to 1853; and that year and the next it prevailed very extensively and severely, returning, in most cases, after it was broken, on or very near the seventh, fourteenth, or twenty-first day.

"The factory pond above referred to, was indicted in the year 1853 as a nuisance, from its presumed agency in developing malaria; but it was proved that malarious diseases at that time prevailed in regions previously unaffected. Dr. Moulson says: 'Intermittents are less prevalent in Mamaroneck since the factory pond has been drawn off; but this does not show a connection of cause and effect, since the same has happened, *pari passu*, at New Rochelle, where no pond has been drained.'

"In reference to New Rochelle and its vicinity, Dr. Moulson says, after referring to swamps, or low grounds which become dry in summer: 'An island in the Sound, nearly a mile from the shore, of about seventy acres, has upon it a pond of fresh water, about fifteen rods in diameter when full, but of much smaller dimensions in dry seasons. This pond is on the eastern side of the island, where the ledges of rock project above the earth and breast the waves. Large quantities of muck are taken from the bottom and sides of this pond, when left naked in dry seasons, together with the flags and weeds which grow luxuriantly on its borders, and spread upon the land as manure. Paludal fevers prevail here as well as on the main land. I have never found such diseases more prevalent, *cæteris paribus*, where salt and fresh water meet, than where there was no salt water. Formerly, before intermittents became so general, they were confined to the valleys, and to the neighbourhood of rivers and swamps, and seldom occurred near salt marshes or meadows, unless fresh water swamps were near; but I visited a family of seven persons in Pelham on the third of September, 1853, four of whom were ill with intermitting fever, and all had been seized within the preceding twenty-four hours. On the day following, two others had the same disease. No local cause or appreciable atmospheric changes could be assigned as a probable cause. Intermittents prevail in Pelham more than in New Rochelle, if I am rightly informed, and the islands on its shore are not exempt from the disease, as they formerly were. The isthmus called Rodman's is, like the islands, generally exempt from paludal fevers.'

"Intermittents and remittents were much more prevalent, and of a graver character, three or four years ago, in New Rochelle and Pelham, than they are at present, or within two years past, while they are increasing and becoming more grave in East Chester within a year or two. I have seen nothing to induce the belief that malaria is produced by excavations or drainage, nor have I known it diminished by such means.

"In the town of Westchester, according to Dr. Ellis, 'intermittents do not prevail to any considerable extent in my practice, and when occurring, are confined almost exclusively to the labouring classes. I do not consider them attributable to malaria or any local cause, but to improvident exposure, and sudden changes of temperature.'

"'In the township of Yonkers,' says Dr. Gates, 'a mill-pond near the south-east part, covering the most part of one hundred acres of flat, moist land, appears to be the cause of intermittents, which have always prevailed in its immediate vicinity. In the Saw-Mill Valley is a strip of moist land which has, in some instances, produced intermittents. Aside from the above, we have been exempt from the disease during the last thirty-two years, until the last five years, during which they have prevailed a little more generally, commencing in a very wet summer; still, we are *comparatively* exempt.'

"Dr. David Palmer, formerly of White Plains, informs us that he commenced practice in this place forty years ago. During the first few years of his prac-

tice, intermittent and remittent fevers were hardly heard of. 'Suddenly, however, these diseases made their appearance, and became very common all over that part of the county. I recollect I used more quinine in one year than I had previously done for some half-dozen years. According to the best of my recollection, the season was both wet and warm, giving rise to the decomposition of vegetable matters, to which, at the time, I attributed the prevalence of the fever. Remittent fever was not uncommon at the time, but seldom of such severity as occurred at New Rochelle, and here, again, although the generating cause, *wet season*, had passed by, still intermittent and remittent fevers continued more or less common for several succeeding years, depending, I suppose, on the original exposure, the poison remaining, for the time, latent.'

"'Nothing,' says Dr. Palmer, 'in the course of my practice of twenty-four or five years, has led me to suppose that any peculiarities existed in that section of country, to control or influence the character or type of the different diseases as they appeared from time to time. I have always considered it a healthy part of the county.'

"White Plains, and its immediate vicinity, have been regarded as a singularly healthy region, and for several years had enjoyed almost an exemption from diseases that at times have prevailed along the North and East Rivers. It has not unfrequently been remarked that epidemics, like showers in summer, pass upward along the borders of those two great water-courses, leaving this locality unvisited. For many years intermittents had not been enumerated among the diseases, previous to the summer of 1853. A few cases had occurred occasionally among those in the immediate vicinity of a mill-pond on the northeastern limits of the town, and of another on the western borders. During the summer of 1853, there was much rain, and a luxuriant growth of vegetation covered the earth's surface; portions of this decomposed, giving rise to offensive odors in the gardens. During the season, intermittent fever made its appearance in this vicinity, and from seventy to eighty cases came under my immediate notice. During the summer and autumn of 1854, it prevailed to a much less extent; while, in the summer of 1855, there occurred an epidemic of intermittent and remittent fever of some extent."

Similar facts to the foregoing have been noticed in Pennsylvania. From many districts where, formerly, fevers of an intermittent or remittent type prevailed annually very extensively, they have of late years almost entirely disappeared; while, in other districts, where formerly these diseases were unknown, they have lately become, as it were, endemic, and this without any evident change in the local conditions of the different localities. The circumstances supposed to be favourable to the production of the fevers in question, have not been removed in the one case, nor become more developed than before in the other. There can be no doubt that, as a general rule, it is to those localities in which the air is humid, and, at the same time, has not a sufficiently free circulation, that intermittent and remittent fevers are endemic. That, however, these diseases do not invariably prevail in, and are far from being exclusively confined to such localities, facts innumerable incontestably prove. There would, indeed, appear to prevail at irregular periods, and for a series of years, certain conditions of atmosphere, extending over large districts of country, favourable to the production of intermittent and remittent fever, irrespective of the presence of the supposed sources of miasmata. During the morbific conditions of atmosphere alluded to, periodical fevers prevail extensively, and in situations where, at other times, they are rarely or never observed; while, in the absence of such atmospheric conditions, they never or very seldom occur beyond what are known as malarious districts, and in them often to a very limited extent.

A report is presented by Dr. G. J. Fisher, of Sing Sing, of cases illustrative of the effects of needles accidentally penetrating different parts of the body. The chief object of Dr. Fisher is to point out the ultimate danger that may and often does result from needles or portions of needles accidentally driven into the body being allowed to remain, and gradually work their way to the neighbourhood of some important nerve, bloodvessel, or other organ, causing intense suffering by the irritation they cause, or more serious and even fatal results, by penetrating some vital part.

It is unquestionably the duty of the surgeon to endeavor, in every instance where needles or parts of needles have entered any part of the body, to ascertain their precise locality, and to attempt their removal, by an operation, if necessary, whenever this can be performed "without involving any serious risk of wounding some important nerve or other structure, or of exciting a high degree of inflammation." But we cannot accede to the propriety of the direction to spend hours in exploring with the scalpel in every direction, at the part where the needle enters, particle by particle, until the needle is found.

The following cases of phlegmasia dolens—the one occurring after typhoid fever, and the other, in both the upper and lower extremities, after parturition—by Dr. James Fountain, of Jefferson Valley, are not without interest:—

"The case of phlegmasia dolens I mentioned at our annual meeting, occurred in a young, healthy girl, aged 14 years. A typhoid fever broke out in the neighbourhood of her father, in the winter of 1847. The mother acted as nurse in two fatal cases, and contracted the disease. Immediately on her convalescence, her daughter had it. It ran through its regular stages, and subsided. Some few days after its close, she was seized with pain in the calf of the left leg, in the morning. The mother applied some warm flannels to the part through the day, but, about ten o'clock in the evening, the pain had reached the groin, and had become so extremely violent, that she screamed with it incessantly. At twelve at night, her father called me up. I sent her three powders, each containing about three grains of opium, and two of camphor—one to be taken every two hours, till relief be obtained. Next morning, I found she had taken two of the powders, and had found relief. Her leg was tumefied from the toes to the hip; skin white, and extremely tender, but not painful, unless the limb was moved; the swelling was tense and elastic; the joints were not affected internally. In the afternoon, I gave her an emetic of tart. ant. with tinct. sem. colchici. It operated freely, and the limb was immediately less sensitive. On the next day it was far less so, and in a day or two it became œdematous, and by means of bandaging and some mild diuretics, it disappeared.

"About thirty years or so ago, I was in the practice of waiting on a Mrs. Horton in her confinements. For three successive labours, her pains seemed not to remit in the least upon the expulsion of the child, but kept on with the same expulsatory effort, after the placenta was expelled, until two or three spoonfuls of tinct. opii had been taken. After the last labour, she had a regular attack of phlegmasia dolens, first in the right leg, then in the right arm, then in the left leg. These were clear cases, and were not rheumatic, for no more pain was produced by moving the joints than by moving the limbs generally. They yielded at once to full doses of opium and camphor, as they always will, and emetics never fail to change the albuminous to a serious condition of the affected limb." D. F. C.

Art. XXI.—*San Francisco Medical Society; Annual Address delivered before the Society, pursuant to appointment, Jan'y* 27, 1857. By Henry Gibbons, M.D. 8vo. pp. 24.

From the annual address of Dr. Henry Gibbons, delivered before the San Francisco County Medical Society, January 27, 1857, a production replete with correct principles and liberal views, well and boldly expressed, we select the following paragraphs, as presenting, in brief outline, a general view of the climate and diseases of California:—

"The climate of the Pacific coast, in its etiological relations, opens an immense field of observation and study. In the winter season, if winter it can be called, from November to April inclusive, there is but little difference of temperature on the seaboard, in a range of fifteen degrees, from the mouth of the Columbia River on the north, to San Diego on the south. Nor is there much difference inland, except that the more elevated regions are liable to colder

weather. Thus whilst snow and ice are rarely seen on the coast, the mountains of the Sierra Nevada range are covered with snow nearly all the year.

"In the summer season, a similar uniformity of climate presents itself on the seaboard; but during this period, from May to October, a wave of cold air flows daily from the ocean, often loaded with falling mist. So little difference is there in temperature between winter and summer in this wide range of coast, that flannel garments are constantly worn, and no one thinks of changing the dress from winter to summer. But beyond the mountain barrier, which skirts the ocean, and walls out the sea breeze from the interior, the heat of summer is often intense, the mercury rising frequently to 100 degrees or upwards. At the same time, the air is generally very dry. Almost invariably, however, the nights are pleasantly cool, so that sleeping is well done everywhere.

"A few years ago it was supposed that the climate of California was almost proof against pulmonary disease. In 1850, if an individual happened to cough in church, all eyes were turned on him with curiosity and amazement. The native population, it was said, were entirely exempt from disorders of the lungs. But time has dispelled the delusion. Pulmonary consumption and the kindred affections have become the great enemy of human life, as in the Atlantic States. Our entire climate everywhere is less injurious, it is true, to pectoral disorders than the corresponding latitudes on the Atlantic. But, the cold and searching winds of summer on the seaboard, while they often build up the strength by their bracing and tonic power, are in general unfavorable to patients suffering from the class of maladies under consideration; and the extreme heat of the interior is equally noxious, from its debilitating influence. The relation of our climate to this class of diseases may be summed up in a few words. Persons afflicted with bronchial or pulmonary disorders, in the incipient stage, are almost invariably benefited, and oft times cured by traversing a tropical climate, and taking up their abode in California. On the other hand, such diseases are developed *ab initio* in this country, about in the same degree as in the Atlantic States. As the female population increases, the bills of mortality exhibit a corresponding increase in the number of victims.

"Some years ago, it was a general practice to send pulmonary cases to the Sandwich Islands. But experience has shown its futility. We stand in need of some other sanitarium. In many cases, change of climate is the only remedy; and a genial climate, not liable to sudden or material fluctuations, and exempt from strong winds, are requisite conditions. In the summer season, the region bordering on the Bay, at its northern and southern extremities, may serve the purpose, holding, as it does, a medium place between the damp and chilly ocean climate of San Francisco and the arid and scorching heat of the interior. In the winter we must turn our attention to the south. Los Angelos and San Diego, in the southern section of the State, are still too far north. The table land of Mexico will probably supply the desideratum. But even in Mexico, proximity to the ocean must be avoided. Twelve months ago, in a brief stay at Manzanella, which is on the western coast, in latitude 19°, I observed among the native population an extraordinary prevalence of pulmonary disease, caused, in all probability, by their sleeping on the damp ground, exposed, more or less, to the cool night wind. Sixty or seventy miles inland, in the vicinity of Cotima, is a different climate, said to be much more salubrious. With all the knowledge I now possess on the subject, this spot appears preferable to any other, and, accordingly, I have latterly recommended it to my patients, instead of the Sandwich Islands. This subject, however, deserves much more consideration than it has yet received."

"Epidemics are of rare occurrence in this State. At an early period, when the comforts of life were greatly wanting, diarrhœa and dysentery were prevalent, and extremely fatal. In those days men dwelt in tents, and slept on the earth; they used a diet of animal food, almost exclusively, undiluted with vegetables and fruit, and composed of beef run down before being killed, and they employed that *blessed* prophylactic, brandy. With improved habits of life, and wholesome diet, and a diminished antipathy to the internal use of cold water, these diseases have greatly diminished, and death from dysentery or diarrhœa is comparatively rare.

"In the winter of 1850–51, the malignant cholera was epidemic in various localities, visiting our territory in its regular course of march on the western coast of North America. In this city the mortality was light, but Sacramento was nearly depopulated. Since that time, sporadic cases have occasionally appeared, and patients laboring under the malady, and dying with it, have been frequently landed from steamships from Nicaragua and Panama, and taken to the county hospital, or otherwise disposed of. The disease has, in no well authenticated instance, extended to others. Several cases were said to have appeared in the neighbourhood where the clothing from an infected vessel was sent to be cleansed, giving support to the theory which attributes the spread of malignant cholera to exhalations from the feces of its victims. But as the statements to that effect were connected with some pecuniary interests or speculations, they are not entitled to credit.

"In June and July, 1851, bronchial affections first made their appearance in San Francisco, in the form of an influenza. Since that date, catarrhal disorders have prevailed nearly every summer, in a sufficient degree to be pronounced epidemic."

"Croup is a disease from which the infantile population of our State suffer very much. It is apt to be violent and intractable, terminating fatally in many cases, perhaps as much for want of timely aid and proper nursing as from the intrinsic violence of the malady."

"Scarlatina first presented itself to the notice of the Amerian inhabitants in the spring of 1851, on the heels of the cholera. There were few cases, however, and they were of a mild grade. Since that time it has occurred sporadically, and with the same tractable character. A form of disease bordering on malignant scarlatina has committed sad havoc in certain localities in the past two or three years. It commences with inflammation, and mostly ulceration, of the fauces and tonsils, exhibiting no peculiar features, and exciting no alarm. Sometimes a cough is present from the beginning. Suddenly the patient is seized with croupy symptoms, and in a brief period, from six to twenty-four hours, life is extinguished. The muscular strength and the faculties of the mind are generally retained to a late period. The pulse is that of scarlatina, but there is no eruption. Delirium and convulsions seldom occur. Children are its ordinary victims, though adults are not always exempt.

"A striking feature of this malady is its fatality in certain families. It may visit only a few houses in a village or neighbourhood, but in them it is apt to carry off all the young children, in rapid succession. In San Francisco, it has not prevailed so much as in Oakland, Sonoma, and some other towns. In the only instances within my knowledge, in this city, where all, or nearly all the children of the household were swept away, the victims were trophies of homœopathic practice. I have had no fatal, and no very malignant cases, in my own charge exclusively, but have visited a number in this city, and at a distance, in consultation, where no opportunity was afforded for autopsic examination. In these cases the fatal result appeared to arise from the rapid extension of the inflammation to the air-passages and lungs, without a full development of the proper symptoms.

"The treatment that has proved most salutary, under my observation, consists mainly of the free internal use of quinia, and the application of nitrate of silver, in solution, to the fauces, with a large blister to the chest in case of pneumonia."

"Diseases of the urinary passages are frequent and troublesome, especially chronic affections of the urethra, which often defy all treatment, yielding only to time. In fact, it may safely be said, that an unusual tendency exists on this coast to disorders of the mucous membranes in general.

"Insanity, as might be expected, is fearfully prevalent in California. It grows directly out of the excited mental condition of our population, to which the common use of alcoholic drinks is a powerful adjunct. Other cerebral disorders do not abound, excepting meningitis in infants. It has been remarked that, notwithstanding the constant exposure of a large portion of the male population to the extreme heats of the interior, 'sun-stroke' is scarcely ever heard of."

"There has been observed in the diseases of this coast an extraordinary tendency to the paroxysmal form, or to exacerbations, requiring the use of quinia. This occurs in dysenteries, in pneumonia, in puerperal women—in short, it is traced in almost every affection attended with febrile action. Fevers to which the dubious term malarious is conveniently applied are scattered everywhere, in city and country, and are often endemic in certain districts. In the intermittent phase, they are often excessively annoying by their repeated returns after apparent cure. Typhoid, or rather ataxic, fevers are frequently met with.

"Acute inflammations, requiring the lancet, are not common. It is truly singular to what extent venesection is discarded in California. I am apprehensive that we allow this potent remedy to be too much neglected."

D. F. C.

Art. XXII.—*Experimental Researches relative to the Nutritive Value and Physiological Effects of Albumen, Starch, and Gum, when singly and exclusively used as food.* By W. A. Hammond, Assistant Surgeon U. S. A.

The above is the title of an essay for which a prize was awarded by the American Medical Association at its last session, and which treats of subjects which should enlist the attention of every physician who wishes to practise understandingly. Without a thorough knowledge of the effects of each article of food upon the system, we prescribe at random particular articles of diet for the sick, and are to some extent unable to understand some of the most frequent causes of disease. And yet our actual knowledge on these points is very limited. Magendie indeed showed that neither gelatin nor albumen would suffice to sustain life; and Boussingault proved that fat could not be assimilated in sufficient quantities. Many other isolated facts might be quoted, which have been recorded within the last twenty years; but the want of an accurate knowledge of tissue metamorphosis prevented most of these observers from affording us the rationale of these facts. The experiments of Chossat on animals during inanition, and Lehmann on himself, under different diet, have gone far to enlighten us. But Dr. Hammond has chosen a new field of investigation; and with a diligence and sacrifice of personal comfort worthy of high praise has given us the results of three series of experiments upon himself, recording the daily amount of food and drink taken, and the daily loss of the system by the different emunctories, with remarks upon the results obtained, characterized by the careful consideration and general correctness.

The results of his experiments upon *gum* may be stated in a few words—nearly the whole amount ingested during four days was discharged unaltered by the bowels. This fact is important as showing that the chemistry of our laboratories is after all identical with the chemistry which plays such an important part in all vital phenomena. It has long been known that gum was not rendered endosmotic by any of the digestive fluids, out of the body; but its long use as an article of diet in acute disease has induced among practitioners the conviction that in some way it must be digested. Nothing but such an experiment as Dr. Hammond's could finally settle this point; and henceforth we hope to see gum discarded, or at least only used as a demulcent—it is no more nutritive than rose water is astringent.

The other two series of experiments involve many points of the highest physiological importance. It is not our purpose to discuss them fully. We shall content ourselves with indicating some of them, and advise our readers to take up the essay itself and study it. These two series of researches occupied ten days each; previous to the commencement of the first one, Dr. Hammond determined, by observations of the ingesta and egesta for five days, the ordinary amounts of excretion from the bowels and kidneys under usual diet. Sufficient time was allowed to elapse between the albumen and the starch series for the system to regain its tone. We are presented at the close of each

series with tabular statements of the ingesta and egesta (including the transpiration), temperature of body, variations in weight, height of barometer and of thermometer for each day. Analyses of the blood on the 1st and 10th days of each series are also given, together with tables showing the amount of carbon absorbed in the albumen series, and the relative proportions, in the same series, of the nitrogen absorbed to that eliminated in the forms of urea and uric acid. The conclusions from the albumen experiments may be thus stated:—

1. The amount of albumen in the blood was materially increased, as was also that of the fibrin and of extractive; while the blood-corpuscles and salts were diminished and fat almost disappeared.

2. The animal temperature underwent a very slight diminution.

3. The urea, uric acid, and residue of the urine were increased, while the chlorine, sulphuric, and phosphoric acid diminished.

4. The feces diminished in quantity, relatively, until the 6th day; upon the 8th diarrhœa ensued, thus augmenting the water; the ether-extract diminished, while the alcohol-extract and insoluble residue increased, especially the latter; thus indicating an increase of the bile-resins and the passage of a considerable amount of albumen unaltered.

The albumen used was procured by boiling the serum of bullocks' blood; the quantity averaged 8343 grains daily. No derangement of health ensued until after the 4th day, on which the amount consumed reached 12,725 grains; headache and slight fever occurred. On the 6th day, albumen appeared in the urine. On the 8th, a severe diarrhœa ensued, which continued some days after the close of the investigations. By deducting the amount of insoluble residue from the albumen ingested for each day, Dr. Hammond obtains, as he states, the amount of albumen absorbed; and then proceeds to calculate the actual amount of carbon introduced into the system, and to compare this with the amount required for respiration. He thinks he has proved that the system can absorb enough albumen to support respiration, as the temperature of the body was nearly maintained; and certainly, the daily variations correspond closely with the amount of albumen taken. But is there not an error in assuming that all the albumen which was not absorbed would appear in the course of twenty-four hours in the feces? We think so; and to support it, Dr. H.'s weight decreased continually except on two days, when he consumed about 3000 grains of albumen more than usual; on these days his weight *increased* a few hundred grains. This has an important bearing upon the other point discussed by Dr. H., the proportion of nitrogen in the urea and uric acid to that absorbed. We cannot help thinking that a part of the albumen remained unacted upon in the bowels, and caused the diarrhœa of the 8th day; and that if the stools had been watched for three or four days after the close of the experiments, a large amount of the albumen would have been thus recovered. Of 100 grs. nitrogen absorbed, Dr. Hammond found but 30.08 grs. in the urea and uric acid, instead of $\frac{8}{9}$, as stated by Lehmann; Rigg and Barral found but 50 per cent. and 42 per cent. respectively; so that we must either conclude that these observers were mistaken, or that the nitrogen sought some other way of exit, or remained permanently in the system. Of these, the second is the most probable; the residue of the urine would probably have yielded enough to modify the above proportion considerably. The probability of some of the albumen having escaped subsequently, must also be remembered. The diminution of the ether-extract of the feces indicates that the fat resorbed from the system was consumed in respiration; while the increase of fibrin in the blood very likely was due to the inflamed state of the bowels.

Of the second series of experiments, we have not much to say. Debility ensued on the third day; and soon after palpitation of the heart followed, with evident symptoms of deficient aeration of the blood. Sugar appeared in the urine on the 5th day, and continued to be thus excreted for five days after the experiments terminated. The weight of the body declined but slightly. The urea and uric acid were reduced (we regret to find no mention made of the presence or amount of hippuric acid): while the solid residue increased considerably, probably from the presence of sugar. The ether-extract of the feces

was slightly lessened, the alcoholic and water-extract diminished considerably, while the insoluble residue was very small, thus proving that nearly all the starch (about 10,357 grs. per diem) ingested was disposed of. It should be added, however, that Dr. Hammond continued to lose weight for some days after the experiments ceased. From the analysis of the blood we learn that the fibrin, fat, and extractive increased considerably, while the blood-corpuscles, albumen, and salts diminished. The decrease of the latter is easily explained when we remember that the system was living upon itself. The increase of extractive (from 4.84 to 11.25 parts in 1000) corresponds closely with the amount of sugar stated by Lehmann to exist in the blood before it appears in the urine, though unfortunately no absolute determination of its amount was made. The excess of fat is remarkable, and taken in connection with the fact that the system did not lose weight as might have been expected, indicates strongly the probability of some of the glucose absorbed having been converted into fat. This is probably the most interesting physiological point in the series; while we may take an important lesson in therapeutics from the oppression of the circulatory system induced by the starch diet. We ought to be careful how we administer amylaceous food to patients suffering under diseases of the respiratory organs, for by so doing we put an additional amount of labour upon the latter. A decided increase of temperature and elevation of the pulse were noted by Dr. Hammond.

We hope that these are but the commencement of series of experiments by Dr. Hammond, whose careful precision and sound mode of reasoning admirably fit him for his undertaking.

Since the above was written, Dr. Hammond has kindly permitted us to test his *vital capacity*, which we find equal to 225 cubic inches. As he is not accustomed to the use of the spirometer, this probably falls below his actual capacity, which may therefore be considered normal. J. C. M.

ART. XXIII.—*Essays on the Secretory and the Excito-Secretory System of Nerves in their Relations to Physiology and Pathology.* By HENRY FRASER CAMPBELL, A. M., M. D. One of the Vice-Presidents of the American Medical Association, and Professor of Special and Comparative Anatomy, in the Medical College of Georgia (Augusta). With illustrations. 8vo. pp. 135. J. B. Lippincott and Co., Philadelphia, 1857.

WE have experienced no little surprise at the apparent apathy with which the several communications of Dr. Campbell, in relation to the excito-secretory system of nerves, have been received by the physicians of this country. We had hoped that after the fact of the existence of an excito-secretory nervous action had been fully recognized, and publicly announced by so imposing an authority as the late Dr. Marshall Hall, of London, it would, at once, have attracted the attention it deserved on the part of such as had the time and talents for its further investigation—and of these we have, unquestionably, many in our midst—in order that so important a truth should be confirmed and elucidated, and its relations to physiology and pathology, already, in part, pointed out by Dr. Campbell, more fully determined and developed.

The importance of the discovery of an excito-secretory function as a key to the correct interpretation of many physiological phenomena, and to the elucidation of numerous pathological conditions, in regard to which we have, heretofore, been groping in the dark, must be evident to every one upon even a superficial glance at the subject. To what extent it may lead to a modification and correction of our received opinions in respect to the correlation of divers vital actions, during a state of health, and the true character and connection of the diseased conditions of the several tissues and organs, is a question that can only be determined by future observations and experiments.

That the sensory nerves of the cerebro-spinal system, are not only excitors

of the motory apparatus, but that, under certain circumstances, most of them sustain, also, an analogous relation to the secretory nerves, exciting these, and modifying their action, and thus diminishing, increasing, and altering the secretions of the surfaces upon which they are distributed, according to the extent and character of the excitation applied, is a proposition that we believe to be incontrovertible. In our opinion, the expositions of Dr. Campbell, though confessedly limited, and in many particulars defective, force upon us its adoption. The subject, nevertheless, still opens up a wide field for investigation on the part of both physiologist and pathologist, and it is one that will amply repay those who shall enter upon its cultivation, with the right spirit, and in the right direction.

Most of the essays comprised in the volume before us have been very fully noticed in former numbers of this journal, and a very full abstract has been already given, of the facts upon which are based the claim of Dr. Campbell to priority in the discovery and naming of the excito-secretory system of nerves—which all must admit are clear, positive, and conclusive.

In the essay to which was awarded the prize of the American Medical Association, at its tenth annual session (May, 1857), Dr. Campbell has endeavoured to demonstrate the fact that many of the important acts of nutrition and secretion are modified in both health and disease, through the agency of the excito-secretory nerves, and that it is to aberrations in the functions of these nerves, that many of the heretofore mysterious phenomena of diseased action are mainly attributable.

After a general view of the *secretory* system of nerves, in which certain allied facts pertaining to the functions of the two grand divisions of the nervous system—the cerebro-spinal, and the secretory—are presented in a manner which Dr. C. has deemed best calculated to sustain the deductions he advances, subsequently, in reference to the excito-secretory function of the sensory nerves.

"We have seen," he remarks, "that to the ganglionic system, and to this system alone, are confided all those important and mysterious processes which pertain to nutrition and secretion; or, in the words of Bichat, 'those thousand secret operations of a living body.' It presides over all our internal chemico-vital actions, superintending and directing all blood-changing processes, and instigating all metamorphoses occurring in the intimate structure of the animal tissues. It is the system for the internal and individual wants of the organism, and its possession enables the being to sustain an independent and individual existence, carrying on, to a certain extent, all strictly organic actions, without the aid of external influences."

In exposition of the excito-secretory function, Dr. C. adduces the phenomena produced in the secretory surfaces within, by impressions made upon the external surface of the body. The sudden exposure of the surface to a cold atmosphere, or to a cold stream of water, it is well known, will increase the urinary secretion. This fact has been variously explained. It has been supposed by many that there exists an antagonism between the cutaneous surface, and the secretory tubules of the kidney, whereby, when the exhalant function of the first is arrested the secretory function of the latter is increased. This doctrine of antagonism, Dr. C. regards as altogether unphilosophical, whether applied to the kidneys, the mucous surface of the intestines, or to any other portion of the animal organism.

"There is," he observes, "no such principle, in our humble opinion, as antagonism to be recognized in any of the operations of nature in her conduct of the vital processes, but a beautiful correlation and reciprocity are everywhere manifest in her economy. Nor yet can we justly account for these sequences upon the theory of revulsion, or a driving in of the blood upon the secretory organ. The real explanation is far more simple, and far more in accordance with the recognized principles of action in the nervous system. Under favourable circumstances, we irritate an excitor nerve, and we stimulate muscular contractions, evidencing the existence of the excito-motory function. Now, under the circumstances above related, the excitor or sensitive nerves, having received an appropriate stimulus, excite, through the medium of the spinal centres, the action of those ganglia and filaments dominating the secretory or-

gans in question; they control, as we have seen, their circulation; they preside over their secretions, and thus stimulated, they are excited to modify the circulation and the secretion. So far this is a normal act, the result of that ordained and wholesome correlation established between the two portions of the organism through these two systems of nerves, the sensory and the secretory; but should the excitation be unusually strong, amounting to what is popularly termed a 'shock,' or too prolonged, we find the secretory system acting unduly, and this action is then carried to an abnormal extent: the *dynamic* act so modifies the circulation, that secretion becomes aberrated, or even arrested, and, perhaps, a change in the condition of the tissue from altered nutrition may result. Dr. Marshall Hall thus remarks, in his recent article upon this subject: 'A partial keen current of air, falling on *any* susceptible portion of the skin, may induce inflammation in any susceptible internal organ. An extensive burn, or scald, is apt to induce pneumonia.'"

Dr. Campbell next examines some of the phenomena occurring in the region of the fifth pair of nerves, which send certain filaments to the sensitive parts about the eye, others to the teeth, and also sensitive branches to the head and face.

"Under certain circumstances," says Dr. C., "the sensitive conjunctival surface of the ocular globe is exposed to a sudden draft of air, or to some mechanical irritant. The first effect occurring from this exposure, is an immediate increase in the secretion of the lachrymal gland. This may continue, or it may be entirely arrested after continuing for a time. Secondly, the eye becomes perhaps dry, or it may become congested and secrete a puriform fluid, which, drying, closes the lids, or it may become entirely *bloodshotten* or *ecchymosed*, and in very favourable conditions, ulceration, and even opacity of the cornea may result from this taking cold. This is a condition of the parts, though arrived at much more gradually, which we find resulting from the experiments so repeatedly referred to in this paper, and our explanation of them is, that the sensitive fifth nerve becomes excitor through the spinal centre, to the modifications in the circulation, secretion, and nutrition of the eyeball, which acts are under the immediate reign of the ganglionic system. We can observe the same character of phenomena in the secretory lining membrane of the nostril, and also the same exposure to cold may, through the fifth nerve, or other sensitive nerves, excite modified circulation in the fauces and pharynx through the secretory or mixed branches, which, together with the pharyngeal plexus, control the circulation of those mucous surfaces."

In a consideration of the relation of the teeth to the sensory or excito-secretory branches of the trifacial nerve, and through them to the spinal marrow, and thence to the entire system, is to be found, according to Dr. C., nearly all that is necessary for the full portrayal of the excito-secretory system. For, he remarks, in the phenomena which sometimes result from these relations, under particular circumstances, are to be found illustrations of almost every character and degree of modified secretion and nutrition.

In reference to those troublesome cutaneous eruptions so common in children at the period of teething, Dr. C. remarks, no rational and satisfactory explanation of their occurrence as concomitants of teething, had been presented before the enunciation of the doctrine of the excito-secretory function.

"A comprehension of that doctrine," he says, "affords to them a ready interpretation by referring them to the modified action of the secretory system controlling the capillary circulation of the cutaneous surface, which modification is excited through the dental filaments of the fifth pair, the spinal marrow, and that portion of the ganglionic system above referred to. In verification of this view of the influence of these connections, and also of the effect of the local irritation, we ask leave here to adduce an observation, which we are not aware has been recorded elsewhere. It is generally admitted, that at the termination of the period of dentition, that is, when the child has acquired all its teeth, the cutaneous eruption, of whatever nature it may have been, subsides, and the skin resumes its natural condition, the patient not again being liable to its return. This, according to our observation, is generally, but not invariably the case. We have observed certain instances in which the eruption had

subsided for several years, when on the advent of the *second* dentition, it came out with almost its former violence and inveteracy, not subsiding until the second period was entirely completed. So frequent has the return of the eruption been a subject of remark with us, that we now seldom encourage parents to expect permanent relief for their children, affected with these eruptions, until after the completion of the second dentition. Again, we find that children who have suffered severely during the period of dentition, are very liable to become affected with *dropsy;* this latter affection frequently presenting itself at the termination of the above cases. Since the announcement of the excito-secretory function of the nervous system, these cutaneous eruptions and dropsical affections which occur during dentition, in our opinion, need no extended and elaborate explanation."

"We are aware that the above phenomena, indicating embarrassed or aberrated action of the secretory system of nerves, might receive an explanation in the fact, that during this period several of the important emunctories of the system, as the liver and kidney, suffer an arrest, or at least, a modification of their eliminatory functions, but we will not contend here for the difference in the value of these two opinions; either one of them can only rationally explain the phenomena, by invoking the aid of the excito-secretory action originated by the irritation caused in the branches of the trifacial nerve, during the evolution of the teeth."

From the foregoing, our readers will derive some idea of the manner in which the excito-secretory function is applied by Dr. Campbell to the explanation of various morbid conditions of the organism. Other of his expositions—which are all ingenious and plausible, and bearing, apparently, the impress of truth—might be adduced. To establish fully the agency of the newly discovered function in the production of the foregoing, and various other abnormal phenomena, will demand, however, a more extended and cautious series of experiments and observations—the combined efforts of many labourers through many years. Dr. C. is nevertheless deserving of the thanks of the profession, for having directed attention to a subject, at once, so interesting and so important, as well as for the efforts he has already made in its elucidation and development.

The volume of essays before us is deserving of an attentive study and careful consideration on the part of every physician; should we have succeeded in directing to it the attention of such as may be inclined to investigate more fully the truths it enunciates, we shall be fully satisfied.

D. F. C.

Art. XXIV.—*The Enlarged Prostate; its Pathology and Treatment; with Observations on the Relation of this Complaint to Stone in the Bladder.* By Henry Thompson, F. R. C. S., &c. Octavo: pp. 320. London, 1858.

The Prostate Gland and its Enlargement in Old Age. By Decimus Hodgson, M. D., Demonstrator of Anatomy in the University of Glasgow. London, 1856.

Diseases of the urinary and reproductive organs have received at all times great attention, and the works treating of them are numerous. The body called the prostate gland, which occupies a very remarkable position, in regard both to the organs of urination and those of reproduction, has attracted much notice. Notwithstanding, however, the many works which treat of this body and its diseases, it must be admitted that there is room for a new one. Recent discoveries in general anatomy, the transactions of learned societies of the past few years, particularly those of the Royal Medico-Chirurgical Society and of the Pathological Society, of London, bear out the correctness of this assertion. In this Journal, in the April and October numbers of the past year, some account was given of several communications made by Mr. Thomp-

son to the Medico-Chirurgical Society; one, concerning the anatomy and pathology of the prostate gland, the other, concerning the nature of certain concretions found therein, and their relation to prostatic calculi. The character of these communications, and the excellence of his work upon a somewhat analogous subject, stricture of the urethra, would lead us to expect much that is valuable in his treatise on the enlarged prostate.

The points to which Mr. Thompson desires especially to request the attention of the scientific inquirer, are briefly stated, in the preface, to be as follows:—

"The assignment of the 'third' or 'middle' lobe, as a separate anatomical portion of the prostate, to the abnormal history of the organ; discussed in the first chapter.

"The analogy between the enlargements and tumours of the prostate and those of the uterus; discussed in the second chapter.

"An examination of the alleged causes of enlargement of the prostate, resulting in new views of this subject; in the third chapter.

"The effects of enlarged prostate in relation to the functions of nutrition; considered in the fifth chapter.

"The researches in relation to malignant and tubercular disease of the prostate; in the ninth and tenth chapters (tenth and eleventh).

"The consideration of 'the bar at the neck of the bladder;' in chapter the twelfth."

The other chapters—there are fourteen altogether in Mr. Thompson's work—treat of the symptoms of enlarged prostate; the diagnosis of prostatic and other obstructions at the neck of the bladder; the treatment of senile enlargement; the treatment of retention of urine from enlarged prostate; enlargement of the prostate from inflammation; prostatic concretions and calculi, and the relation between enlarged prostate and stone in the bladder. It must not be supposed, from having directed particularly the attention of the scientific inquirer to certain portions of his work, that others have been neglected. The subjects, the list of which we have given, as occupying the remaining chapters, have been treated at length; more fully, probably, some of them, as the diagnosis and treatment of enlargement, than in any preceding treatise.

Although physiology is something more than "animated anatomy," and a precise knowledge of structure does not always enable us to decide as to function, still there is a relation between structure and function which should not be overlooked. Experiments skilfully conducted have thrown light upon a few obscure phenomena of the animal organism, but by far the greater portion of the recent progress in physiology has been effected by the advance of our knowledge of anatomy. And when we speak of physiology, pathology also is meant; for all that we know with satisfaction, in pathology, has a physiological basis.

Investigations in minute anatomy, made in late years with so much zeal, have shown us that the body called the prostate gland has no claims to be called "gland" at all; that is, in the usual sense of that term. It should be considered as only an advanced portion of the circular muscular coat of the bladder, having the power of acting independently of the vesical fibres, as is shown in the propulsion of the seminal fluid. A number of small urethral glands are contained in this muscular body, each of which has a separate duct opening into the gutter at the side of the verumontanum. It is the liquid from these glands that gives to the sperm its white colour; it is white, creamy, not at all tenacious, and is mixed with the other five liquids forming the sperm, at the moment of ejaculation.

The views of Mr. Thompson in regard to the normal and pathological anatomy of the prostate are contained in the paper we have already referred to, as published in this Journal, for April, 1857. We have the strongest reasons to believe in their correctness. In the preparation of that paper he made a dissection of sixty specimens of the prostate, removed himself from the dead body, and in its illustration fifty of these specimens, preserved in spirits, were exhibited at the Medical and Chirurgical Society. The existence of a "third lobe," as a fact in normal anatomy, has never been admitted by European anatomists. Cruveilhier says: "In the normal condition, the prostate does not

project into the canal of the urethra; but it is not rare to see rising up from the inferior part of the canal of the urethra, at the level of the base of the prostate a more or less projecting tubercle, which forms an obturator more or less complete at the entrance of the canal of the urethra; this is the tubercle designated by Lieutaud under the name of *luette vésicale;* by Everard Home, under the name of *development of the middle lobe of the prostate.* But, on one side, this tubercle belongs to a pathological condition; and, on the other, there is no middle lobe, unless it be desired to give this name to the slightly furrowed and consequently less thick portion, that unites the two lateral halves of the prostate." (*Traité d'Anat. Descrip.*, vol. iii. p. 631, Paris, 1852.) In England and in this country, down to the latest treatises on the subject, a middle lobe is recognized, and any one who would take the trouble to consult the original paper of Home, in the *Philosophical Transactions*, 1806, would be astonished at the insufficiency of the grounds. A "third lobe" was proclaimed after five examinations of the organ by dissection. In these five dissections, the author says, "the appearance was not exactly the same in any two of them." In one of them, "there was no apparent glandular substance" at all in the spot indicated.

We are strongly inclined to agree likewise with Mr. Thompson in regard to the incorrectness of the general opinion as to the frequency of enlargement of the prostate in old age. His opinion is founded upon very numerous dissections, and moreover he finds *the absence of anything abnormal* which it is very difficult and rare to find, and when found is generally to be believed true. Ignorant persons are those most apt to find the most pathological conditions, and this is particularly true of enlargements.

Mr. Thompson examined the prostate in the bodies of fifty elderly people, as they consecutively appeared in the dead-house of a large metropolitan institution, no kind of selection being made. Of the fifty prostates examined, fourteen were affected with unnatural developments in one form or another. Of these, six exhibited numerous isolated tumours in the substance of the lateral lobes. The others show outgrowths, single, binary, or multiple, springing from the posterior median portion. These isolated tumours, as those of the uterus, called fibrous tumours, are formed of the same anatomical elements as the organ in which they are situated; organic muscular fibre. It is an interesting circumstance that the prostate—male homologue of the uterus—should exhibit such striking analogies in pathology with the latter organ.

From the facts he has advanced, Mr. Thompson believes that it may be regarded as established, that enlargement of the prostate, "so far from being a charge invariably, or even usually present in old age, is an exceptional condition. And it may be further regarded as highly probable that a slight tendency thereto, almost, if not quite unrecognizable during life, may occur in about one out of three individuals after fifty years, and that a marked enlargement may be rarely met with in one out of eight—rarely, however, before sixty years of age"—(p. 67.)

The three chapters of Mr. Thompson's work, the 4th, 5th, and 6th, treating respectively of the symptoms of enlarged prostate, of the effects of its enlargement upon micturition, and of the diagnosis of prostatic and other obstructions at the neck of the bladder, are most excellent. We notice with pleasure that he refuses to use the word *incontinence*, in the sense in which it is generally used, that is, as indicating a condition which, so far from being one in which the bladder *cannot retain*, is one in which it *retains too much*. This misapplication of the term has been productive of fatal errors in practice. In his work on stricture, for this reason, the condition described was designated as "retention with incontinence;" in this one he employs the word "overflow," a shorter and preferable term.

In the great majority of cases in which habitual retention of urine with overflow of a surplus portion exists, he does not hesitate to affirm, that the cause is a physical one; in other words, "that there is *an organic obstruction at some part of the urethra*, situated either at its commencement in the neck of the bladder, when it is usually constituted by enlarged prostate; or in a portion of the canal anterior thereto, when it usually takes the form of permanent or organic

stricture"—(p. 84.) He does not enter into any discussion of the subject, preferring to regard it as a question of fact, rather than as a theme for abstract reasoning. "Experience alone has led him to reject the impalpable cause, and to appreciate the material one, and to an extent sufficient to warrant him in referring to the fact alone for corroboration of the assertion made above."

The only exceptional cases, he allows, are those in which there is a cerebral or spinal lesion of some kind, which paralyzes more or less completely the nerve functions of motion, voluntary and involuntary, of sensation, or of sensation and motion combined, of the whole body below the situation of the injury, and those cases in which, after voluntary retention of urine, there is overdistension and atony of the bladder. In these latter cases, to which the term of paralysis has been applied, there is no evidence whatever that the lesion consists in any loss or impairment of the *nervous force* transmitted to the viscus; the muscular expelling apparatus of the bladder is overstretched, and unable to perform contraction in a normal manner for a certain time. Paralysis of the bladder—that is, a condition of things in which its nervous supply is either impaired or destroyed—Mr. Thompson does not believe to ever exist. "There is no evidence of the existence of true paralysis—that is, a removal or impairment of nervous influence *limited* to the *bladder*"—(p. 104.)

The paralysis of a muscle, after the section of a particular nerve, is easily understood; but it is very difficult to understand a partial paralysis from a general cause. Nevertheless, such cases are witnessed; every one, for instance, has seen paralysis of the radial nerve, from the effects of lead upon the system; and also, in hysterical women, paralysis of the third pair. There is no reason, therefore, for not admitting partial paralysis, limited to the bladder. Mr. Thompson denies it because he has never seen it; but other persons, well worthy of credit, have reported cases of the kind.

The chapter (6th) on the treatment of senile enlargement of the prostate occupies sixty pages. We think we may safely assert that no preceding author has treated the subject so carefully and so satisfactorily. The subject is divided into three distinct divisions, and they are considered separately, as follows:—

"1. Treatment for the purpose of obviating the results of obstruction caused by enlarged prostate.

"2. The general, or constitutional treatment and management of patients with enlarged prostate.

"3. Treatment directed against the enlargement itself."

This complaint is one generally admitted to be completely intractable, and the surgeon almost invariably limits himself to palliating its most distressing symptoms, and to retarding its progress. Mr. Thompson, however, does not doubt that "the day will come when the complete control of this evil will be in our power, adding another to the already numerous and splendid triumphs of scientific medicine;" and urges with confidence and hope the employment of treatment against it. Though strongly advocating treatment directed against the enlargement itself there is also a most careful description of those means which past experience and skill have placed in our power for prolonging the life and insuring the comfort of the patient.

There exists a certain analogy, as has been already said, between prostatic and uterine enlargement. The influence of iodine and of its congener bromine over these affections of the uterus being testified to by many men of the highest celebrity, it is only a legitimate inference to affirm that there may be good grounds for believing that these remedies may be similarly effectual in those of the prostate. Some years ago, Mr. Stafford, in an "Essay on the Treatment of some Affections of the Prostate Gland" (London, 1840), called the attention of the profession to the use of iodine and its preparations for the removal of prostatic enlargement. His plan consisted in administering iodine internally by suppositories in the rectum, occasionally by the mouth, and in applying it to the prostatic portion of the urethra in the form of a weak ointment. Mr. Stafford affirms to have been successful in a large number of cases, in causing the disappearance of the enlargement. For some reason or other, although very partial to the employment of iodine, and openly declaring his

belief in the efficiency of treatment, Mr. Thompson speaks of Mr. Stafford and of his plan of treatment with great harshness. After doubting his powers of diagnosis and his accuracy in reporting, he adds: "All that can be said further is, that the success was marvellous, and that other surgeons have been less fortunate, notwithstanding that Mr. Stafford's experience certainly induced numerous trials of his remedies by others."

The plan recommended by Mr. Thompson himself is the use of the water from the highly charged iodine and bromine springs of *Kreuznach* in Rhenish Germany. Knowing that uterine enlargements were often much benefited by it, he visited the springs for the purpose of inquiring as to its influence upon chronic enlargement of the prostate, and, from the report of the physician, was satisfied that valuable results were obtained from its employment. This water, or ordinary water to which the bittern or mother-lye of the Kreuznach springs has been added, he uses as a bath, and also as an enema. No results are given of the effects of this plan of treatment. We doubt whether many surgeons will make use of it in preference to the treatment recommended by Mr. Stafford, and which is spoken of by Mr. Thompson with such disrespect.

Besides the medical part of the special treatment to be directed against the enlargement, there is also the mechanical. The effect of compression in retarding the progress of morbid growths and enlargements has long been recognized, and is constantly employed with success. The attempt has, therefore, been made to effect the reduction of the enlarged prostate by the same agency. Physick, in this country, attempted to accomplish this object by distending with fluid a small bag of gold-beater's skin, previously rolled up and introduced on the end of a catheter, into the bladder; and by then attempting to withdraw the dilated sac through or into the vesical orifice. Mr. Thompson says: "Provided that, without difficulty or danger to the patient, an efficient degree of compression could be applied with ease and certainty to the prostate and neck of the bladder, I think it reasonable to suppose that considerable benefit might accrue from its application." The instrument he recommends is composed of a catheter, an India-rubber tube fitting over the catheter, and a syringe. When the tube is drawn over the catheter and fastened by a thread of silk close to the handle, on applying the syringe previously filled with water, and making pressure, the fluid passes through the eyes of the catheter, and the lower three inches of the tube become very gradually distended, equally in every direction. The manner of employing the instrument is so simple, that it scarcely requires explanation.

Operations for the excision or the crushing of a protruding portion of the prostate, Mr. Thompson mentions only for the purpose of expressing his disapproval of them. Division of the obstructing portion has been performed, and it was advocated and practised by Mr. Guthrie; this operation, however, is not discussed here, but it is in the twelfth chapter, one devoted to the consideration of "the bar at the neck of the bladder."

The different operations for puncturing the bladder, which, though very rarely, is, nevertheless, sometimes necessary, are judiciously examined. The one, by which an opening is made through the symphysis pubis, a very interesting case of which was reported in this journal for April, 1854, by Dr. Leasure, of New Castle, is thus judged: "The experience of the operation of puncture through the pubic symphysis is not extended enough at present to permit of a comparison being made in regard to its results, with other modes; but that it is sufficient, coupled with the apparent advantages derived from anatomical considerations, to recommend the operation to the test of practice, in order that its merits may be duly ascertained." When fluctuation can be felt with the finger in the rectum, behind the prostate, this is the easiest and safest mode of giving exit to the urine. The great objection to this operation by the rectum is said by Dr. Gross (*Practical Treatise on the Diseases, Injuries, and Malformations of the Urinary Bladder, &c.*, 2d edit., Philad. 1855, p. 389), to be the formation of a vesico-rectal fistula. We are inclined to think, however, that this is incorrect; Mr. Cock, of Guy's Hospital, who has performed this operation twenty-four times, and seen it done at least twelve times more, never saw

a fistula left. In fact, there would appear to be difficulty in preventing the opening from closing immediately.[1]

The three following chapters of this work are upon enlargement of the prostate from inflammation; on malignant disease of the prostate, and on tubercular disease and cysts of the prostate. This part of Mr. Thompson's work is not so satisfactory as the rest. Several things of importance have been left unmentioned; for instance, there is nothing said of the necessity of introducing a catheter after the inflammation has terminated in abscess, which has opened into the urethra. Dr. Hodgson, in his work, insists upon the necessity of introducing the instrument, but he advises the use of a small instrument retained in the bladder by the usual means, for "the urine then flows through the instrument without entering the cavity of the abscess, while the small size of the catheter permits the matter to escape by its side." Whenever a catheter is retained in the bladder, at the expiration of twelve hours, or thereabouts, the urine flows away by the side of the instrument, which acts as a sort of conducting tube. It is, therefore, better for the surgeon to introduce the instrument and to draw off the water as often as may be required.

The twelfth chapter is devoted to "the bar at the neck of the bladder;" an affection so closely related to enlarged prostate, by identity of anatomical situation, and of the symptoms resulting, that it is impossible to treat of one without also considering the other. In the majority of cases in which there exists an organic obstruction, having more or less the form of a ridge or barrier, situated at the posterior border of the neck of the bladder, this unnatural elevation is believed by Mr. Thompson to be constituted by an outgrowth arising from the posterior median portion of the prostate. When an obstruction does exist, without the prostate being affected, he believes it to be most commonly owing to an undue elevation of the uvula, associated with hypertrophy of the muscular elements of the bladder, originating in long-continued irritability of the viscus, and generally occasioned by stricture of the urethra or calculus of the bladder. He believes also that a fold of mucous membrane and submucous tissue may form a barrier, though this very rarely happens.

The operations which have been performed and recommended by Guthrie, Leroy d'Etiolles, and particularly by Mercier, for the purpose of practising incisions in this barrier, are described and discussed. Before resorting to them Mr. Thompson prefers to be fully assured that dilatation is unequal to affording relief; for it is a method which has yet to be fairly and effectively employed in these cases.

His views upon prostatic concretions and calculi, the subject of the thirteenth chapter, may be sufficiently judged from the account already given of them in this journal for October, 1857.

In the fourteenth chapter is an excellent account of the relation between enlarged prostate and stone in the bladder. It is a chapter, however, which struck us as being rather out of place, in a work of this kind, and as belonging to one on lithotrity.

Mr. Thompson's work, we feel assured, will be well received by surgeons. The whole of it is valuable; and the first eight chapters are eminently so.

In Dr. Hodgson's treatise, the descriptive anatomy of the prostate, and its general anatomical relations are given in minute detail. They are also correctly represented by plates attached to the volume, among which are a number displaying their pathological alterations. This book loses somewhat of its value by a lack of method in the arrangement of the subjects; in which, we would add, Mr. Thompson's excels. W. F. A.

[1] See his paper in Medico-Chirurgical Transactions, vol. xxxv.

Art. XXV.—*A Practical Treatise on the Diseases of Children.* By J. Forsyth Meigs, M. D., Fellow of the College of Physicians, of Philadelphia, etc. etc. Third edition. Carefully revised. 8vo. pp. 724. Philadelphia: Lindsay & Blakiston, 1858.

Of the first two editions of this treatise we expressed, at the time of their appearance, a highly favourable estimate. In the edition before us the work has undergone a very careful revision, while such additions have been made to it as the author's more enlarged experience, and the contributions of contemporary observers, both at home and abroad, have furnished. The treatise will, in consequence, be found a very excellent and faithful guide to the pathology and treatment of the more prominent of the diseases of childhood. Unfortunately, the author has not yet found the opportunity to complete the work, by adding an account of those diseases which were not included in the preceding editions. To the practitioner this is a circumstance of minor importance; but to the student, who consults the work as a complete treatise on the diseases of children, it will be a source of some annoyance to find that he must refer to other works for information in reference to affections peculiar to the period of childhood, on which Dr. Meigs has neglected to treat. So well has the author accomplished his task, in reference to the diseases embraced in this third edition of the treatise, that we most fervently desire that the leisure necessary to pen the chapters still wanting to complete the work in accordance with its title, may be speedily furnished him. D. F. C.

Art. XXVI.—*Journal de la Physiologie de l'Homme et des Animaux.* Publié sous la Direction du Docteur E. Brown-Séquard. Tome Premier, Janvier, 1858. Paris, J. B. Bailliere et Fils. London and New York, H. Bailliere.

The appearance of a journal devoted especially to physiology, and under the management of one so capable of successfully conducting it as Dr. Brown-Séquard, is an event which all who feel the stimulus engendered by progress in rational medicine, must regard with no ordinary feelings of interest. In whatever light we view physiology, we cannot fail to perceive that on the facts which constitute that science, reposes the whole structure of the healing art, and that with the further development of the former, we have the most ample assurances of continued advancement in the scientific appreciation and treatment of disease.

The success of a journal restricted to the consideration of but one branch of medical science, may be doubted by some, but when we reflect that though cultivated assiduously for centuries, by learned men of all civilized nations, physiology is nevertheless yet in its infancy, we see no reason to anticipate failure. For to whatever point of the science we direct our attention, we find so vast a field for investigation, that one not actuated by the high motive of labouring for the good of his species, might well be dismayed at its contemplation, and falteringly turn aside from a work which requires such unremitting sacrifices for the establishment of the most simple fact.

The perseverance and ability of the editor of the *Journal de la Physiologie*, are ample guaranties that the periodical he has undertaken to conduct, will accomplish much for scientific medicine, and if future numbers reach the standard of excellence attained by the number before us, it will, indeed, be a valuable addition to medical periodical literature.

In order that our readers may form an idea of the subjects treated of, we subjoin a list of the original memoirs:—

1. On the Laws which govern the Dynamical Phenomena of the Animal Economy. By M. Brown-Séquard.

2. Memoir on the Temperature of the Palmiped Birds of the North of Europe. By M. Ch. Martins.

3. Note on the Low Temperature of certain Long-Winged Palmipides. By M. Brown-Séquard.

4. Memoir on some Points in the Anatomy and Physiology of the Mucous Membrane and Epithelium of the Uterus during Pregnancy. By M. Ch. Robin.

5. Researches in regard to the Effect produced on the Circulation by the prolonged application of Cold Water to the Surface of the Human Body. By Dr. H. Bence Jones and M. W. H. Dickinson.

6. On certain Improvements in the means of establishing Artificial Gastric Fistulas. By M. Blondlot.

7. Experimental Researches on the Physiological Properties and Actions of the Red and Black Blood. By M. Brown-Séquard.

8. Experiments with the Stuffs used for Military Clothing, considered as Protective Agents against Heat and Cold. By Dr. Coulier.

9. New Researches on the Physiology of the Spinal Marrow. By M. Brown-Séquard.

10. Experiments on Digestion. By Dr. F. G. Smith (reprint).

11. Experiments relative to the Transformation of Starch into Glucose in the Stomach. By Drs. F. G. Smith and E. Brown-Séquard.

12. New Researches relative to the Importance of the Functions of the Supra-renal Capsules. By M. Brown-Séquard.

13. On the Modifications effected in the Globules of the Blood of Mammals, when injected into the Vessels of Birds, and in the Globules of the Blood of Birds, when introduced into the Vessels of Mammals. By M. Brown-Séquard.

We are unable to notice in detail all the above memoirs, but this is of the less consequence, as the results of several of them have been already published through other channels. Even these, however, contain new facts, and are well worthy of attentive perusal.

The memoir of M. Martins, and the note on the same subject by M. Brown-Séquard, are particularly worthy of consideration, as containing some interesting and accurate results relative to the temperature of the palmiped birds of the North of Europe. From these researches it is seen that some of the long-winged members of the order, especially the fulmar petrel (*Procellaria Glacialis*), possess a temperature markedly lower than would be pre-supposed from a knowledge of their habits.

The paper of M. Coulier, relative to the protecting power against heat and cold possessed by the cloths used for the manufacture of military clothing, though interesting, is not so complete and satisfactory as it should be for the thorough elucidation of the subject.

M. Coulier seems to be unaware of how much has hitherto been done by others in this matter, and that, consequently, he has been anticipated in the more important of his conclusions. The subject of his memoir is of so great interest in a hygienic point of view, that we hope our readers will pardon us, if before stating his results, we recall to mind some of the facts in regard to it, which may be considered as definitely established.

In 1792, Count Rumford instituted a series of experiments relative to the influence of colour over the amount of solar heat absorbed in a given time. He found that, *cæteris paribus*, black was pre-eminent as absorbing more heat than any other colour.

Franklin's researches followed, and were more complete and decisive than Rumford's. This philosopher exposed cloths of different colours, laid on snow, to the heat of the sun, and observed the different relative depths to which they sank. From his experiments, he deduced the conclusion "that black clothes are not so fit to wear in a hot sunny climate as white ones, because in such clothes, the body is more heated by the sun when we walk abroad, and are at the same time heated by the exercise, which double heat is apt to bring on putrid dangerous fevers." He, therefore, thinks that soldiers and sailors in tropical climates should wear white uniforms, and that white hats should be generally worn in summer.

In 1799, Sir Humphrey Davy took up the subject; his experiments were per-

formed with pieces of copper of various colours, on the under surface of which cerate was spread. His results accorded exactly with those of Franklin.

Stark, in a paper read before the Royal Society in 1853, and published in the *Philosophical Transactions* for that year, contributes a good deal of valuable information on the subject. The results which he obtained agree in a striking manner with those of Franklin and Davy, as seen from the following table, in which the several colours experimented with are arranged in the order of their absorptive power:—

Franklin.	Davy.	Stark.	
		Coloured Wool.	Coloured bulb of Therm.
Black	Black	Black	Black
Deep Blue	Blue	—	Dark Blue
Light Blue	—	—	Brown
Green	Green	Dark Green	Green
Purple	—	—	—
Red	Red	Scarlet	Orange Red
Yellow	Yellow	—	Yellow
White	White	White	White.

In the *Journal of the Franklin Institute* for November, 1833, Prof. A. D. Bache, of this city, gives the details of a series of experiments which he instituted on the same point. Prof. Bache concludes that the colour of a substance only affects its absorptive power for *luminous* heat, and that if a person keeps in the shade, it is immaterial what is the colour of his clothing.

In relation to the influence of colour over the absorbent power of a substance for moisture, Stark, in the memoir above referred to, furnishes some important results, to which we may briefly call attention.

On the 16th of January, 1833, he exposed during a foggy night 10 grains of black wool, 10 of scarlet wool, and the same quantity of white wool, to the action of the atmosphere. When weighed in the morning, the black wool had gained 32 grains, the scarlet wool 25 grains, and the white wool 20 grains, deposited as frost.

At a time when there was less moisture in the atmosphere, he repeated the experiment. When the wool was weighed, the black had gained 10 grains; dark green 9.5; scarlet 6; and the white 5 grains. It is thus seen, that a direct relation exists between the capacity of a colour for heat and for moisture.

We come now to M. Coulier's conclusions, which are based upon a number of experiments, evidently performed with great care, but which, with the exception of the second, are by no means original. His deductions are as follows:—

1. The colour of the clothing is without perceptible influence over the loss of animal heat.

2. All cloths are capable of absorbing a certain amount of *hygrometric water* [so called on account of its only being appreciated by the balance, or by the lengthening of the textile fibres]; this quantity is greatest for wool, next greatest for hemp, and least for cotton.

3. This absorption is made without the immediate loss of caloric by the human body.

4. The colour of a cloth exercises a great influence over the absorption of solar heat, but whatever may be the character of the clothing, if its exterior surface be suitably modified, all the advantages which white stuffs possess when subjected to the heat of the sun are obtained.

The modification referred to in the fourth conclusion, consists in wearing a white frock over the coloured uniform.

In this country, where our army has so much frontier service to perform, in which the troops in summer are subjected all day on the plains to the heat of an almost tropical sun, and in winter are exposed to snows, rains, and a temperature frequently several degrees below the zero of Fahrenheit, the subject of clothing for the soldier has not attracted that attention from the authorities which it deserves. In winter or summer, in Texas or Maine, in Florida or on the Pacific coast, the clothing of our soldiers is the same, the only difference

being, that when occasion requires it, they are allowed to wear their overcoats. The colours (dark blue for coats and light blue for trousers), though very good for winter use, are almost the very worst which could be worn for summer service.

Besides the original contributions, there is in this number of the *Journal de la Physiologie* an excellent *résumé* of the recent progress of physiology, in which abstracts of several important memoirs are given.

In conclusion, as we have said before, we see no reason why the attempt to establish a physiological journal in France should fail. In Germany several have been in successful existence for a number of years, and are among the most valuable medical periodicals published. We are sure that, with the acknowledged ability of the editor, and the aid of the numerous eminent physiologists, who have arisen in France, of late years, the *Journal de la Physiologie* will assume a permanent and exalted position as an exponent of progressive physiological science. W. A. H.

ART. XXVII.—*Comptes Rendus des Séances et Mémoires de la Société de Biologie, pendant l'année* 1856. Octavo, pp. 748. Paris, 1857.

Minutes of the Meetings and Papers read before the Society of Biology in the year 1856.

THIS, which is the eighth volume of the *Transactions* of the Biological Society of Paris, is not inferior in interest to those which have preceded it.

Founded in 1849 by the most talented and laborious young men of the French capital, and having as perpetual president M. Rayer, a man who is celebrated not only as a pathologist, but also for his acquirements in natural science, and his generous aid to those who are zealous in its cultivation, this society has, since that time, been yearly giving evidence of its valuable and well-directed labours.

Instituted for the study of the science of organized beings in the normal and the pathological condition, the subject of study embraced by this society is vast. Living beings are not withdrawn from the action of the general forces of nature, and all the phenomena, whether mechanical, physical, or chemical, which occur in inorganized bodies, are observed in them. They are, moreover, subjected to the influence of life, also, a force peculiar to them, and which gives rise in addition to phenomena entirely special. This force—life—co-ordinates the chemical and physical forces so as to produce phenomena seen only in organized bodies, but it is not substituted for these forces, nor does it arrest their results.

The society is composed of titular or active, honorary, associated, and corresponding members. The number of the first is fixed at forty, of the second at fifteen, of the third at twenty, and of the last at eighty, all of the lists being complete. In the whole number, there is not a name which is not well known as that of a distinguished cultivator of science. Among the original members, those by whom the society was founded, and who, to this day, have continued its most active members, are Claude Bernard, Charles Robin, Brown-Séquard, Follin, Lebert, Cazeau, Giraldès, Hirchfeld, Verdeil, and Verneuil.[1]

The comptes-rendus, or minutes, of the meetings of the society, published every year, in one volume, together with the memoirs, form a mass of valuable and interesting information. Among these memoirs, or original papers, are those of Bernard on the pancreatic juice and its part in the phenomena of digestion, on the origin of sugar in the animal economy, on the different sali-

[1] The members of the Biological Society hold their meetings in an ancient building, which was formerly a portion of the Convent of the Cordeliers. This building, during the great revolution, was used for the meetings of a society of the most violent of the Jacobins; so that the society of life has taken the place of the society of death.

vary fluids, and on the great sympathetic nerve, and especially upon the influence exercised by the section of this nerve upon animal heat; those of Lebert, on the local and general nature of tumours, and upon inflammation; those of Robin, on the development of the substance and the tissue of bones, on erectile tumours, on colloid and epithelial tumours, and upon hypertrophy of the anatomical elements and those of the tissues; those of Sappey, upon the glands of the eyelids and of the pituitary membrane, on the anatomy of the eye, and on the structure of the tonsils and glands at the base of the tongue; the paper of Brown-Séquard, containing his experiments upon the nervous system; and that of Davaine, upon hydatids and their development. These are some of the papers which are of most interest to a medical man. The chemist, the biologist, and the zoologist, will find others of greater interest, probably, in the contributions of Rayer, of Montagne, of Mayer of Geneva, Huette, Gubler, and Davaine.

That the zeal of the members of this society does not diminish is evidenced by the fact that, while the first annual volume of their proceedings contains 362 pages, and the second 461, the present volume contains 748 pages. The nature of their labours may be judged from the table of the original papers, which is as follows:—

The physiological and therapeutical action of the chlorate of potash, by M. Isambert.

Bronzed coloration of the skin, coinciding, in a phthisical patient, with fatty degeneration of the two supra-renal capsules, by M. Second Féréol.

An affection characterized by palpitations of the heart and arteries, tumefaction of the thyroid gland, and double ex-ophthalmia, by M. Charcot.

The mensuration of the facial angle, facial goniometers, and a new facial goniometer invented by the author, by M. H. Jacquart.

Leucocythemia, by MM. Isambert and Robin.

Unilocular cyst of the ovary, by M. A. Laboulbène.

The existence of a co-ordinating principle of writing, and its relations with the co-ordinating principle of speech, by M. Marcé.

Spontaneous amputation of the neck and trunk, by the umbilical cord, in the fœtus, by M. Hillairet.

Physiological study of the venom of the toad, the triton, and the salamander, by M. Vulpian.

Hemorrhages of the ovarian vesicles, by M. Robin.

Natural history of an insect of the order of coleopteri, which produces a gall upon the draba verna, by M. A. Laboubène.

A gall of the tamarix brachystylis, by M. Amblard.

Proof that various tumours, called sarcoceles of the testicle, have their seat in the epididymis, by M. Robin.

The characteristic cavities of bones, by M. Robin.

The anguillulus of smutty wheat, considered in regard to its natural history and to agriculture, by M. Davaine.

The aortic narrowing at the place of junction of the ductus arteriosus, by M. Dumontpallier.

The pathological anatomy of the elephantiasis of the Arabs, by M. Vulpian.

Studies upon monorchidia and cryptorchidia in man, by M. Godard.

W. F. A.

Art. XXVIII.—*Archives of Medicine. A Record of Practical Observations and Anatomical and Chemical Researches connected with the Investigation and Treatment of Disease.* Edited by Lionel S. Beale, M.B., F.R.S., &c. &c. London: John Churchill. 1857. No. 1.

Dr. Beale, under whose auspices the *Archives of Medicine* makes its appearance, is pre-eminently a practical man, and from his knowledge of physiology, pathology, chemistry, and microscopy, every way fitted for the undertaking in

which he has engaged, and to which he seems so earnestly to have devoted himself.

In the advertisement prefixed to the first number, Dr. Beale enumerates the following as the subjects upon which he expects to receive contributions:—

1. Practical clinical observations.
2. Original researches in physiology and pathology.
3. Results of the chemical and microscopical examination of the solid organs, and secretions in a healthy and morbid state.
4. Descriptions of different processes employed for demonstrating various structures, and for carrying out scientific inquiries bearing upon medicine.
5. Condensed reports of the researches of observers published elsewhere.

If the anticipations of Dr. Beale are realized, he cannot fail to present a journal capable of conducing in a high degree to the advancement of scientific medicine.

The papers contained in the present number are all of them of a highly practical character, and, with the exception of two, contributed by Dr. Beale himself. Among these is a very interesting one "On the Manner of preparing Injected Preparations of the Liver," which we commend to those engaged in micro-physiological investigations. The papers "On Microscopical Drawings;" "On the Presence of Cholesterine in the Urine;" "On Chylous Urine," and the two articles "On the Anatomy and Pathology of the Liver," are also worthy of attentive perusal.

Dr. Moritz von Bose contributes a paper, to be continued in the ensuing number, "On the Estimation of Urea, Chlorides, Sulphates, Phosphates, and Sugar in Urine volumetrically." This, we believe, is the first attempt to place before the profession in Great Britain a connected and detailed description of those volumetric processes for the analysis of the urine which have for the last few years been so successfully employed in Germany. For ease and certainty in manipulation these methods are unsurpassed; and we know of nothing better calculated to insure accuracy in results, and, at the same time, by facilitating physiological researches, to increase the number of labourers in the field, than the wide-spread diffusion of such papers as the one now under notice.

An article follows, "On the Chemical and Microscopical Examination of Morbid Specimens," in which several interesting cases are cited.

The number, besides several woodcuts, is illustrated with ten octavo pages of lithographs, which, if not executed in the highest style of the art, are amply sufficient for the purpose of correct representation, and add very much to the value of the papers to which they refer.

In the enterprise which he has undertaken, Dr. Beale will, we hope, be sustained by the enlightened members of the profession on both sides of the Atlantic.

W. A. H.

Art. XXIX.—*A Theoretical and Practical Treatise on Midwifery, including the Diseases of Pregnancy and Parturition, and the Attentions required by the Child from Birth to the Period of Weaning.* By P. Cazeaux, Member of the Imperial Academy of Medicine, Adjunct Professor in the Faculty of Medicine of Paris, etc. etc. Second American, translated from the Fifth French edition. By Wm. R. Bulloch, M. D. With one hundred and forty illustrations. 8vo. pp. 992. Philadelphia, 1857. Lindsay and Blakiston.

The Wise Man has said that, "of the making of many books there is no end." Most truly is it, that of the publication of many treatises on the theory and practice of midwifery there is no end. We have already so many admirable works of this kind, from any one of which all the necessary knowledge, so far as that knowledge can be communicated by books, may be acquired, that the student and young practitioner can be at no possible loss in his selection of an obstetrical guide. He will certainly not be disappointed, and can scarcely be led astray in any important particular, whether in relation to doctrine or prac-

tical details, should he make choice of the admirable treatise of Meigs, or of the equally excellent one of Ramsbotham, or of Rigby, Lee, Churchill, or Cazeaux. The latter work, in the edition before us, is one of unquestionable excellence. Every portion of it has undergone a thorough revision, and no little modification; while copious and important additions have been made to nearly every part of it. The author has selected from every authoritative source, whatever bears the impress of truth, and has been sanctioned by the concurrent experience of the masters of the obstetric art. Out of these materials he has formed a body of doctrine and of sound practical precepts which he communicates, illustrates, and enforces with great directness and perspicuity. The work is, in fact, precisely what it imports to be, a theoretical and practical treatise on midwifery, based upon the labors of all antecedent writers in that department of medicine, tested and confirmed by the author's own observations and experience.

It is well and beautifully illustrated by numerous wood and lithographic engravings, and in typographical execution, will bear a favourable comparison with other works of the same class.

The translation appears to us, so far as we have compared it with the original, to be faithfully and correctly executed.

D. F. C.

Art. XXX.—*A Manual of Medical Diagnosis: being an Analysis of the Signs and Symptoms of Disease.* By A. W. Barclay, M. D., Cantab. et Edin., Fellow of the Royal College of Physicians; Assistant Physician to St. George's Hospital, etc. etc. Philadelphia: Blanchard & Lea, 1858. 8vo. pp. 423.

The design of this work is to aid the student of medicine in the prosecution of his clinical studies. If it be well adapted to this end, its usefulness will be by no means restricted to the period of medical pupilage, for every practitioner, great as may be his skill in diagnosis, based upon an experience ever so extended, must often feel doubt and difficulty, at the bedside, in the discrimination of diseases. The importance of diagnosis, as a province of medical science and art, can hardly be over-estimated. It does not, it is true, constitute the whole of medical science and art. The practice of medicine involves something more. But it is the keystone of the arch. Without it, therapeutics are aimless, or as likely to be directed for evil as for good. All medical experience, whether it be confined to the individual, or contributed to the public stock, is either worthless or pernicious, unless based on a correct discrimination of diseases. In view of the importance of the subject and the paucity of treatises devoted to it specially, it was quite unnecessary for the author to apologize for his undertaking.

After introductory remarks, the consideration of the method of diagnosis, etc., the author treats of the objective and subjective phenomena referable to the general condition of the patient; febrile diseases; rheumatism and gout; poisons and entozoa; diseases of uncertain or variable seat; chronic blood ailments; depraved constitutional states, and quasi-nervous conditions. These occupy about one-third of the volume. The remainder is devoted to the diagnostic phenomena pertaining to particular anatomical systems and organs. Fifty-eight pages are appropriated to the semeiology of diseases of the brain and nerves; diseases affecting the intra-thoracic viscera occupy over an hundred pages; fifty pages are allotted to diseases of the organs of digestion; nearly the same number to diseases affecting the genito-urinary system; and nineteen pages to diseases of the skin. The work is furnished with a copious index in addition to a table of contents.

The author does not claim to have advanced any novel views. Without aiming to enlarge our knowledge of medical diagnosis, his object is to present an analysis of the symptoms and signs of disease, already sufficiently established.

The originality of the work is in the arrangement of subjects and the manner of making the reader acquainted with well-known facts. We think it would have been better had the plan of the work been either more or less comprehensive. As it is, he gives us as much, but not much more, relating to diagnosis, than is embraced in most of the treatises on the practice of medicine. A volume of a little over four hundred pages is insufficient to do justice to the diagnostic points involved in the discrimination of nearly all the diseases in the nosological calendar. In giving to the work so wide a range, and yet restricting its size within moderate limits, a degree of condensation was necessary, which renders it less readable and satisfactory than if the author had accorded to himself greater space; and if a larger book was considered objectionable, we cannot but think that the work would have been more attractive and useful had its scope been less comprehensive.

In several instances the *signa diacritica* of diseases are treated of so briefly as to be likely to leave in the mind of the inexperienced reader an erroneous impression respecting the difficulty of the differential diagnosis. As an example, we may specify croup. The diagnosis of this affection is considered in a page and a half, and the distinctive features of true, as contrasted with those of false croup, occupy twelve lines! Again, pleurodynia, as distinguished from pleurisy, is disposed of in a single paragraph; and the diagnostic points which characterize intercostal neuralgia, are not even alluded to. Under the head of "alterations of sensibility," we were disappointed in finding no reference to the hyperæsthesia of the abdomen, which simulates some of the most prominent of the symptoms of peritonitis, and not unfrequently misleads the young practitioner; nor is this condition mentioned under the head of peritonitis. We cite these simply as illustrations to which others might be added.

We have not proposed to ourselves to write a critical review of the work. Were we to do so, we should be compelled to notice several inaccuracies which arrested our attention during its perusal. Some of these seem to arise from want of care in the composition. We cannot, for example, suppose that, with due reflection, a practitioner of Dr. Barclay's experience would make the following statement: "Irregularity of pulse invariably indicates disease of the heart" (p. 190). As another instance of a careless mode of expression, we quote the following: "The duration of the different affections of the chest varies in a very remarkable degree; it is but a few days in acute inflammation; in chronic bronchitis and phthisis, the more severe symptoms may be spoken of as having existed for some weeks; there have been probably months of continuous ailment in galloping consumption, etc." (p. 189). In the same category belongs the following: "Erosion is found either as the result of ulceration of the mucous membrane, or as the fatal termination of an aneurism when the vessel has burst into the stomach. Both forms of hemorrhage are severe and very often fatal" (p. 96).

The reviewer, however, might take exceptions to certain passages on other grounds than carelessness of expression. For example, when the author states that the blood in hæmatemesis may be derived "by exudation from the surface of healthy mucous membrane" (p. 96). Merely as evidence of the correctness of the remark just made, we quote the following: "The name of *remitting fever* is applied to a disease peculiar to warm climates. It is now very generally believed to be only typhus as modified by atmospherical influences of the condition of the nervous and sanguiferous systems of Europeans residing in tropical latitudes" (p. 57). This sentence includes all that is said respecting the remitting fever of adults.

As a candid reviewer of the work, we should feel bound to criticize the author's style, which is deficient in the directness and clearness so desirable in the composition of a scientific treatise. But with this defect and others to which we have briefly alluded, the work may be studied with profit both by the medical student and practitioner. We confess that it does not come up to our idea of a work on Medical Diagnosis, such as we believe might be written and such as it seems to us is much to be desired; but, in justice to the author, we freely admit that its short-comings are in a great measure due to the incompatibility of its size and scope. A. F.

ART. XXXI.—*On the Diseases, Injuries, and Malformations of the Rectum and Anus, with Remarks on Habitual Constipation.* By T. J. ASHTON, Surgeon to the Blenheim Dispensary, &c. &c. Second edition, London, John Churchill, 1857. 8vo. pp. 396.

THE success of this book of Mr. Ashton's and of the *Clinical Lectures* of Mr. Quain, and also of the works of Syme and of Curling, would seem to show that good treatises on diseases of the rectum are in extensive demand with British readers. A part of this demand, perhaps, may come from the victims of rectal maladies themselves; still, the great majority of purchasers must be regular practitioners, who prove, by their eagerness in securing all information on the subject, its urgent interest and importance.

Certain it is that there are few forms of human ailment more difficult to the surgeon and distressing to the patient, or in which both parties are more likely to look everywhere for assistance and relief. We cannot help feeling considerable surprise, therefore, that the excellent monograph of Mr. Bushe which was published in this country some twenty years ago, and is still very nearly equal, if not in some respects superior, to either of the British publications just alluded to, should neither have gone to a second edition, nor had an original successor, from the American press.

We regret this particularly, since the volume now before us, though containing a large amount of useful matter and numerous cases and observations which are entirely its own, nevertheless owes to the pages of Dr. Bushe some of its best parts. To such an extent, indeed, have the appropriations of whole successive pages, without allusion to their source, availed our author, that, in this instance at all events, he might have followed the more humble example of his American confrères, and adopted, with propriety, if not advantage, the much abused practice of reprinting with notes and additions, which has excited the virtuous indignation of so many of the self-approving, and the interested purists on both sides of the Atlantic.

Mr. A. gives ample evidence, however, in the original portions of his book, of the ability to sustain himself without resorting to the labours of his predecessors; and he has made so many additions to his previous edition, suggested by greater experience, extended reading and accumulated notes of cases, that it is a great pity that he did not avail himself of the opportunity to devote the additional time and labour needed to expurgate the new edition by the substitution of his own language and arrangement, wherever necessary, for that of Mr. Bushe, and by the distinct acknowledgment and reference to the same authority for cases and other matter presented verbatim in the first edition, but without quotation marks or any definite citation.

As this act of simple justice to his own production, as well as to one which he justly acknowledges to have been his ablest monitor and the most complete work of its day, does not appear to have been accomplished, we cannot regard the essay of Mr. Ashton as entitled to rank as an original work with those of Syme, Curling, or Quain, and still less with its model, that of Mr. Bushe. Nevertheless its merits as a practical instructor, well arranged, abundantly furnished with illustrative cases, and clearly and comprehensively, albeit too diffusely written, are incontestable. They have been sufficiently indorsed by the verdict of his countrymen in the rapid exhaustion of the first edition, and they would certainly meet with a similar reward in the United States were the volume placed within the reach of American practitioners.

After a short and sensible introduction, from which we shall quote a few paragraphs, directly, he discusses the various affections of the rectum in twenty chapters. Each of these chapters is concluded with a series of cases presenting clinical examples of the disease with which it is occupied. These diseases are severally discussed at greater or less length, according to their importance, in the following order: Irritation and Itching of the Anus; Inflammation and Excoriation of the Anus; Excrescences of the Anal Region; Contraction of the Anus; Fissure of the Anus and Lower Part of the Rectum; Neuralgia of

the Anus and Extremity of the Rectum; Inflammation of the Rectum; Ulceration of the Rectum; Hæmorrhoidal Affections; Enlargement of Hæmorrhoidal Veins; Prolapsus of the Rectum; Abscess of the Rectum; Fistula in Ano; Polypi of the Rectum; Stricture of the Rectum; Malignant Diseases of the Rectum; Injuries of the Rectum; Foreign Bodies in the Rectum; Malformations of the Rectum and Anus; Habitual Constipation.

The professional reader cannot fail to meet with a great amount of information, upon numerous important questions suggested by the various captions of the formidable list above enumerated, which is probably better and more fully given in the chapters of Mr. Ashton than in those of any other author with which we are acquainted. We are so well satisfied of this that, were it not for the embarrassment inseparable from the palpably non-original character of some portions of his volume, our brief notice might have been extended into an elaborate review. The subject is so important, and so interesting to all medical inquirers, and comes home to more or less of the personal experience of so large a majority of all classes of society, and yet receives so little formal attention in our journals as well as in the text-book and lecture-room, that no reasonable opportunity ought to be neglected to arouse attention to its study.

In the absence of a methodical analysis and discussion of Mr. Ashton's work, we cannot do better, in order to show his estimate of the subject, and his philosophical and practical mode of treating it, than to conclude with the following quotation from his introduction:—

"In the whole range of surgical pathology no class of diseases among civilized communities is so prevalent, causes more suffering, or induces so many varied and distressing sympathetic affections as those of the rectum; happily for the sufferers none succumb more readily to judicious, and, in the majority of cases, to simple treatment, when it is put in force at an early period of the malady; but unfortunately, as it often happens, from a mistaken delicacy on the part of the patients, or from some other cause, proper advice is not sought till the constitution has become seriously deranged, or the local affection no longer endurable; or it may be that, under preconceived and erroneous notions as to the nature of the affection, or from the prominence and severity of some one of the sympathetic effects, the sufferers are induced to adopt a variety of empirical remedies which fail to afford the desired relief and restoration of health, and which are often productive of the most pernicious results.

"From the important functions of the rectum, from the constant or recurrent pain attending diseases affecting it, induced each time the bowels evacuate their contents, and the serious constitutional disturbance these diseases excite, they require the careful attention and deep consideration of the surgeon. In past ages and in the present time a popular idea has prevailed that a deeper knowledge of, and a more intimate acquaintance with, the diseases of any certain organ is obtained by an exclusive consideration of that particular part; but no greater fallacy can be conceived, it being only by a comprehensive view, and after due consideration of all the symptoms produced, and the various phases presented by disordered function and organic change in the various parts of the animal economy, that a just conclusion as to the *fons et origo mali* can be arrived at. Perhaps few classes of disease exemplify the necessity of a wide and mature consideration more than those implicating the rectum, either primarily or secondarily; for the same symptoms will often be found existing under the opposite conditions of cause and effect. Thus, in the female, many instances have occurred of stricture of the rectum being supposed to exist, and a long and useless treatment had recourse to, when ultimately all the patient's sufferings were found to depend on a displaced uterus, or on some morbid enlargement or growth of that organ; and the converse is not unfrequently the case, of a patient being treated for leucorrhœa or uterine disease, whilst the real source of the symptoms has been in some affection of the rectum. In the male also, will be observed stricture of the urethra, diseases of the prostate gland and bladder simulating those of the rectum; or, on the other hand, diseases of this portion of the alimentary canal producing irritability and other disturbance of the genito-urinary organs. Nor is it in contiguous parts alone

that the reaction of one organ on the other is met with, it is necessary therefore to bear in mind the more remote sympathies induced in the cephalic, thoracic, and abdominal viscera, as evinced by headache, vertigo, impaired vision, palpitation of the heart, gastric distension, pain, and sickness; and deranged secretion from the kidneys, as exhibited by the various urinary deposits.

"Formerly some of the affections of the rectum, which in reality are very simple in themselves and easily relieved, rendered the subjects of them the victims of the most painful and in many cases dangerous operations. But by the advance of surgical science generally, and the study and observation of these particular diseases, even the most painful of them may generally be remedied by medical treatment; and when an operation is necessary for the removal of morbid structure or for the purpose of inducing a healthy reparative process, it is simple in character, quickly performed, occasioning but a slight amount of pain, and confining the patient for only a very limited period. Thus fistula in ano, which, at a comparatively recent period, was considered among the heaviest afflictions that flesh is heir to, from the barbarous treatment that was then practised and considered necessary, as a consequence of the false notions and erroneous pathological principles that prevailed, and which led to the scooping out of the parts in the track of the fistula, or to the extensive destruction of the surrounding tissues by corrosive unguents, is now remedied by a slight incision, performed in a few seconds, and not occasioning the loss of more than a few drops of blood. It was only a few years since it was deemed essential for the cure of fissure of the anus to entirely divide the sphincter muscle, but it is now proved that when an incision is required it is not necessary to make it more than a few lines in length, and to extend it no deeper than through the mucous and submucous tissues. In all operations about the anus the general rule in surgery, that of not removing more of the integument than is necessary, cannot be too forcibly insisted on; for if this is not observed the patient will be doomed to much inconvenience and misery by the contraction that ensues.

"The constitutional origin of these local affections and their reaction on the general system, when their cause has been extrinsic, must always be borne in mind, for if this be overlooked, our hopes of success in the treatment will often not be realized.

"Besides prescribing proper remedies and giving strict injunctions with regard to diet and exercise, it is advisable that the surgeon should apply the dressings with his own hands, for though there is no difficulty in the matter, and little skill required, yet it is essential to the comfort and recovery of the patient that they should be accurately and properly adjusted; nurses and attendants, from not thoroughly apprehending the object to be attained, are too apt either to cram and distend the parts with the dressings, or not to approximate them with sufficient nicety; the surgeon should also exhibit the enemata, unless he has some intelligent and trustworthy person on whom he can rely. These matters may appear comparatively trifling, but if they pass unattended to we shall often be disappointed in the result of our treatment, let it in other respects be ever so skilfully and well directed"—pp. 1–5.

We are satisfied, after a careful examination of the volume, and a comparison of its contents with those of its leading predecessors and contemporaries, that the best way for the reader to avail himself of the excellent advice given in the concluding paragraph above, would be to provide himself with a copy of the book from which it has been taken, and diligently to con its instructive pages. They may secure to him many a triumph and fervent blessing, the value and strength of which can be known only to those who have been scorched in the furnace of affliction, the fires of which, it is their province to extinguish.

E. H.

ART. XXXII.—*Plates Illustrative of Wilson on Diseases of the Skin.* Fourth Edition. Philadelphia, Blanchard and Lea, 1857.

IN the Number of this Journal for Oct. 1857, will be found a review of the fourth edition of *Wilson's Treatise on Diseases of the Skin*, in which the highly scientific and practical character of the work is pointed out, and its great merits as a guide to a knowledge of the nature of those diseases, and of the best means of treating them, are fully considered.

Although more than a year has elapsed since the publication, in this country, of the text of the work, the illustrative plates have only just now been issued. While we think we have reason to complain of this delay, we are forced to admit that it must have required some time to execute these plates, in the style in which they are now presented to us. For beauty of drawing, accuracy of illustration, and delicacy and finish of colouring, these illustrations are superior to anything of the kind hitherto published in this country.

The volume contains nineteen plates.

Plate I. represents, in eight figures, the structure of the scarf skin.

Plate II. exhibits the anatomy of the sensitive skin and nail, in six figures.

Plate III. contains eighteen figures, illustrating the anatomy of the sebiparous glands.

Plate IV. exhibits the anatomy of the hair, in sixteen figures.

Plate V. represents two views of the acarus scabiei magnified 107 times, a view of the fore feet magnified 456 times, and two ova of the animalcule.

Plate VI. contains ten figures, illustrative of the structure of warts and corns, together with some diseases of the sebiparous glands.

Plate VII. represents congestive inflammation of the derma, in its several forms—urticaria, roseola, and erythema.

Plate VIII. represents the asthenic group of effusive inflammation of the derma—pemphigus, rupia, in their various stages and several varieties.

Plate IX. contains the delineation of the sthenic variety of effusive inflammation of the derma—herpes and eczema, with their several species, and at different periods of their course.

Plate X. represents suppurative inflammation of the derma—impetigo and ecthyma, their species and various appearances.

Plate XI. is devoted to the delineation of the depositive inflammation of the derma—lichen, strophulus, prurigo, and their several species.

Plate XII. presents representations of the squamous inflammations of the derma—lepra, psoriasis, and pityriasis, and their several species.

Plate XIII. represents lupus non exedens, taken from a characteristic case which had persisted for thirty-three years.

Plates XIV. and XV. contain representations of the diseases of the hair-follicles, and hairs—acne, sycosis, favus, trichosis.

Plate XVI. represents various exanthematous and papular syphilitic eruptions.

Plate XVII. represents tubercular syphilitic eruptions.

Plates XVIII. and XIX. contain representations of various syphilitic eruptions, and of diseases arising from syphilitic poison.

It cannot fail to strike the reader that this is a very complete atlas of Dermatology, and we feel sure that, on examination, he will be satisfied with its accuracy and artistic execution.

QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *Choroid Plexuses of the Human Brain.*—Up to the present time anatomists have not agreed on several points in the anatomy of the centres of the nervous system, especially on the existence or not in adult age of a canal in the interior of the cord, easily to be observed in fœtal life; or whether there be a communication of the subarachnoid space with the ventricles of the brain, and the corresponding space in the cord, or not, etc. Professor Luschka, of Tubingen, well known to anatomists by his treatise on the anatomy of the generative organs, has taken up some of these doubtful points, and brought them, as it seems, to a satisfactory conclusion, chiefly by his researches on the bodies of three healthy criminals who were executed at Tubingen.

It follows from the researches of Professor Luschka, that the existence of a canal in the interior of the cord in adult age is in some cases beyond doubt. Often, however, this canal seems to be completely obstructed and filled by cellular tissue, epithelium, and amyloid corpuscles.

The communication of the subarachnoid spaces with the ventricles of the brain, and with the subarachnoid space of the cord, has recently been denied by Professors Virchow and Kölliker at Wurzburg. Professor Luschka, however, proves the existence of this communication by anatomic preparations, by experiments on dead bodies, and by appeal to well-established surgical facts, so that we can no longer doubt that there is really a floating to and fro of the cerebro-spinal fluid from the brain to the cord, and *vice versâ*.

As the arachnoid membrane spans like a bridge over the convolutions and furrows of the upper surface of the brain, the pia mater being in the depth of these furrows, there must be spaces filled by fluid, and these are in open communication with each other. Similar spaces or sinuses exist on the base of the brain, out of which cerebro-spinal fluid flows in cases of fractures of the skull. The largest subarachnoid sinus on the base of the brain communicates with the fourth ventricle, and thereby with all the ventricles of the brain. From this space may be drawn a very large quantity of cerebro-spinal fluid, as well in the dead human body as in the living animal, the whole mass of which has certainly not been contained in this single space, but has come from the other spaces with which it is in open communication.

It has been proved by surgical observations and *post-mortem* examinations made by Sir Charles Bell and Guthrie in this country, by Laugier and Chassaignac in France, and by Dieffenbach and Wutzer in Germany, that in cases of fracture of the sphenoid bone some cerebro-spinal fluid flows from the nostrils; this proceeds from a subarachnoid sinus lying between the crura cerebri, the margin of the pons Varolii, and the commissure of the optic nerves,

corresponding to the sphenoid bone. It has equally been proved that in cases of fracture of the petrous bone, cerebro-spinal fluid flows from the ear; then the walls have been torn of the subarachnoid sinus on the anterior margin of the pons Varolii, just at the conjunction between the petrous part of the temporal bone and the margin of the body of the occipital bone.

The experiments made by Professor Luschka for proving the existence of a communication of the different subarachnoid spaces with each other, and with the ventricles of the brain, are interesting and conclusive. A fresh corpse was suspended by the feet for four hours, so that the head hung quite free. Then the skull-cap and the dura mater were taken off. The arachnoid membrane was found very much enlarged by fluid collected under it, and in some places was prominent like a bubble. It was then cut open, and one and a half ounce of cerebro-spinal fluid flowed out. Another corpse having been suspended by the head during five hours, the skull-cap was removed, and the dura mater cut open. The subarachnoid spaces now appeared quite empty, and the arachnoid membrane sunk into the furrows of the brain. The head of another body was cut off at the fifth cervical vertebra, a tube introduced under the arachnoid membrane, and some ink mixed with water driven in by very gentle pressure of a syringe. Some time after, the head was held in an inverted position, in order to bring the fluid into the subarachnoid spaces and ventricles of the brain more by their specific weight than by the pressure of the syringe. The skull-cap and the dura mater were then removed, and the spinal fluid was not only seen on most of the parts of the hemispheres of the brain, and in the sinuses at the base of the brain, but likewise in the fourth ventricle, from which it had even come through the aquæductus Sylvii into the third ventricle.

For imitating artificially such fractures of the skull as are connected with loss of cerebro-spinal fluid, Professor Luschka perforated, by means of a trephine introduced into the nose, the body of the sphenoid bone, the dura mater and the arachnoid membrane. Instantly a clear fluid flowed out, and a much larger quantity could be drawn off by a syringe. Further, he introduced the trephine into the external opening of the ear, and perforated the membrana tympani and the labyrinth in the direction of the internal opening of the ear, with the same result.

Finally, air was blown into the subarachnoid spaces of the cords of three men who had just been decapitated, and in whom all the cerebro-spinal fluid had come out through the widely opened subarachnoid space of the cord. The air penetrated from this space into the subarachnoid spaces, as well as into all the ventricles of the brain. This fact alone would leave no doubt about the communication between all the subarachnoid spaces and with the ventricles.—*Med. Times and Gaz.*, Jan. 16, 1858.

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2. *Histology of the Supra-Renal Capsules.*—Dr. Harley, in a paper on this subject, read before the Royal Medical and Chirurgical Society (Dec. 8th, 1857), began by pointing out that the supra-renal capsules could not properly be said to diminish in proportionate size and activity of function with advancing years. He placed upon the table several preparations of supra-renal capsules, taken from individuals of different ages, to prove that their development proceeded at a certain ratio after birth. He moreover stated, that as they did not become proportionally more atrophied in old age than many of the other organs, it might naturally be supposed that they had a certain function to perform in adult as well as in fœtal life. Dr. Harley then called attention to the great variety of size and shape of the supra-renal capsules throughout the vertebrata, and afterwards proceeded to point out the appearances presented to the naked eye by healthy supra-renal capsules. He denied the existence of any large cavity in the centre of the healthy human supra-renal capsule, and said that when such was found it was the result either of accidental rupture of the medullary substance, or as the effect of disease. He pointed out, however, the existence of a number of small sinuses in the centre of the organ. Dr. Harley said that the cortical and medullary portions of the supra-renal capsules, which are so different in colour, have equally distinct microscopical characters. The former, which constitutes the greater part of the organ, consists of a number

of cells, arranged in irregularly-sized rows in a fibro-areolar matrix, the rows of cells appearing like a number of dark-yellow columns placed perpendicularly to the surface. The cells, when examined individually, are seen to be composed of a homogeneous cell-wall, filled with granules, pigment, and some fat-globules. Each cell possesses a well-marked nucleus, although it is not always visible without the employment of reagents. The easiest way to demonstrate the existence of a nucleus, the author said, was to colour the cells with carmine.[1] When floating free in the field of the microscope, the cells appear irregularly round; but when grouped together, they have a somewhat polygonal form. The cells are arranged in a number of larger and smaller masses, which are placed in regular rows, and thus give rise to the columnar appearance. In some cases a column is composed of several cell-masses of different lengths, placed end to end; in others it consists almost entirely of one long cell-mass. Each column, as well as each cell-mass, is separated from the others by delicate fibrous tissue, in which is included the vessels and nerves. Sometimes the cell-masses present the appearance of long tubes, inclosing a single straight row of quadrilateral cells. Each cell-mass is closed at the extremities, and is surrounded by a delicate homogeneous membrane. The dark slate-coloured medullary substance of the supra-renal capsules has a very different structure from that just described. It is composed of a network of fibres, in the meshes of which are a number of large nucleated cells, which have been described by various writers as ganglion corpuscles. Dr. Harley thinks, however, that these, like the cells in the cortical substance, are true secreting cells. The supra-renal capsules are very freely supplied with bloodvessels. Their course and distribution were minutely described. The author concluded his communication by making a few remarks on the supposed functions of the organ, in the course of which he observed that in the supra-renal capsules of the frog he had found blood-corpuscles in various stages of development. Each point of importance in the paper was fully illustrated by diagrams and microscopical preparations.—*Med. Times and Gaz.*, Dec. 19, 1857.

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3. *Function of the Supra-Renal Capsules and their supposed Connection with Bronzed Skin.*—The *B. and F. Med.-Chir. Rev.* for Jan. last contains a report of some interesting experimental investigations relative to these questions by Dr. George Harley. The following are his conclusions:—

1st. The supra-renal capsules are not solely fœtal organs.

2d. The supra-renal capsules are not absolutely essential to life.

3d. The removal of the right is generally more fatal than removal of the left capsule.

4th. That convulsions do not necessarily follow the removal of the capsules.[2]

5th. That the absence of their function (in rats) is attended neither by great emaciation nor debility.

6th. That when death follows upon the extirpation of the supra-renal bodies, it is in most cases in consequence of the injury done to the neighbour-

[1] This is a new process lately discovered in Germany. It was very briefly described by Dr. Harley. The principle of "imbibition," as it is called, is founded upon the fact that various animal tissues absorb and retain pigments with different degrees of avidity. Thus, for example, granular tissues possess a special attraction for colouring matters. Homogeneous substances, on the other hand, display but a feeble affinity for them. A cellular is consequently more readily tinged than a fibrous structure; and in the tissues composed of aggregated cells, various parts are coloured in different degrees of intensity. Thus the homogeneous cell-wall retains its colourless appearance long after its granular contents have become deeply tinged, and the nucleus, which is usually the most granular part of the cell, has become of a prominent dark hue.

[2] In a letter dated Nov. 15th, Professor Virchow informs me that he also has extirpated the supra-renal capsules, without having noticed the derangement of the central nervous system mentioned by Brown-Séquard. I should add, that I have seen two animals suffer from convulsions after extirpation of the capsules. One, a cat, died soon after, having slight tetanic symptoms.

ing tissues; perhaps, most frequently the mutilation of the ganglionic system of nerves.

7th. Absence of the function of the supra-renal bodies is not proved to have any special effect in arresting the transformation of hæmatin, or in increasing the formation of blood crystals.

8th. The suppression of the supra-renal capsular function is not attended by an increased deposit of pigment in the skin or its appendages (in rats).

9th. The problem of the connection of bronzed skin and supra-renal capsular disease is more likely to be solved in the dead-house than in the physiological laboratory.

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4. *Variations of the Colour of Venous Blood.* By Prof. Claude Bernard.—From the period of the discovery of the circulation, two descriptions of blood have been recognized; the one red or arterial, the other black or venous; and so characteristic has this difference in colour of the arterial and venous blood been considered, that it has served since the time of Bichat for the anatomical division of the circulatory organs. The facts now about to be mentioned will prove that henceforth we cannot regard as synonyms the terms venous and black blood; some venous blood being found, in the normal condition, as red as arterial, and even sometimes red and sometimes black. But what will most interest the physiologist is to learn that these variations in the colour of venous blood correspond to different determinate functional conditions of the organs.

As long since as 1845, M. Bernard, while experimenting upon dogs on the eliminatory power of the kidney, was surprised at finding that the blood which left that organ by the vein was as red as that which entered it by the artery. Latterly, he has resumed the investigation of the subject at the College of France. The same phenomenon that had formerly been observed in the dog presented itself in the rabbit, and the red blood of the renal veins arriving and visibly mingling with the black blood of the vena cava inferior. The lumbar veins, on the other hand, discharged black blood very near the renal veins, as did also a small muscular vein which opened into the left renal vein. On multiplying the experiments, and varying the condition of the observation, it was soon found that the usual red colour of the blood of the renal vein might change in shade, and, under the influence of certain circumstances, become completely black. Thus, contradiction would take place if we were contented with the announcement of a single observation. This may unfortunately be almost always the case in physiology, when we fail to distinguish amidst such complex phenomena, the eminently variable conditions which every living organism presents.

Having exhibited the two possible appearances of the blood of the renal veins, the next point was to examine what relation they held to the performance of the function of the kidney. To this end there was placed in the ureter a small silver tube, by which the urine was observed to flow drop by drop, almost continuously, as it is known to do. It was then found that the blood of the renal vein, as well as the tissue of the kidney, continued completely red as long as the urine flowed abundantly by the tube; but that this flow ceased to take place under the influence of circumstances which, while they rendered the blood of the renal vein black, gave at the same time a bluish tint to the kidney itself. Hence it would seem that the red colour of the blood of the renal vein was referable to the functional activity of the kidney, and its black colour to the condition of repose or cessation of function. Moreover, it was found that the nature of the reaction of the urine excited no influence on the phenomenon; the blood of the renal vein being alike red in the dog with acid urine and in the rabbit whose urine is alkaline during digestion and acid after twenty-four or thirty-six hours of abstinence.

Without enumerating the various influences that are capable of disturbing the secretion of the urine, and leading to a change in the colour of the blood of the renal vein, the author contents himself with adverting to the perturbation that may ensue from the mode of operating. If it be desired to observe the red colour of the venous blood, the abdomen must not be largely opened and

the intestines displaced, for then suppression of urine will almost immediately ensue, and the blood in the vein will often become as black as that of the vena cava. A small opening should be made in the lumbar region, and especially on the left side, the left renal vein being more easily exposed in consequence of its greater length. Through the same wound the ureter may afterwards be isolated, so as to introduce the silver tube, in order to make certain whether during observation the function of the kidney continues to be carried on or not.

From what has been said it clearly results that the blood of this vein, presenting habitually a red colour in connection with the formation of urine, which is almost continuous, does not correspond with the definition of venous blood already given. The first question that presents itself to the mind is whether this is an isolated fact, special to the kidney, or whether it may be extended to the secretory organs, whose function is, in like manner, the separation of a special organic fluid in their tissue. The submaxillary gland of the dog offers great facilities by its superficial and isolated position for the investigation of this point; the numerous anatomical varieties which its vein exhibits in nowise interfering with the observation of the physiological phenomena. In the first experiment the blood it contained was found as completely black as the darkest venous blood; but this arose from the fact of the secretion by the gland, which is intermittent, not then being active. When, however, some drops of vinegar were instilled into the mouth of the animal, which by its reflex action induced the secretory activity of the gland, the blood gradually but rapidly exchanged the black for the red colour, the black colour being again restored when the secretion had ceased. In order to render the interpretation of the phenomenon yet more positive, a small silver tube was introduced into the exposed excretory canal of the gland, and the nervous branch of the lingual nerve going to the gland was isolated. It was then found that as long as the organ remained in repose nothing passed by the tube, and black blood passed through the vein; while, whenever the nerve of the gland was excited by galvanism, and secretion was produced, the colour of the blood became red, regaining its black colour when the secretion was arrested after the cessation of the stimulation. The trial was made several times, and with similar results. There was always an interval of some seconds elapsed between the production or the cessation of the stimulus and the changes of colour in the blood, as if the gland required a short period for the discharge of the blood it already contained. Moreover, it was observed that the blood flowed always more abundantly when red, that is, during the state of functional activity of the organ, than when black, the organs being then in a state of repose.

These two series of results obtained from the kidney and the submaxillary gland certainly do not constitute isolated facts; and the same observation should doubtless be extended to other glands. The investigations as yet made by the author on the parotid and on the glands of the alimentary canal have furnished similar general results; but the study of the subject will only be complete when each particular gland shall have been experimented on.

"It results from the facts now stated, that if in the physiological condition we may still designate arterial blood as the red blood, the appellation of black blood cannot in this general manner be conferred on venous blood. We have seen, in fact, that the venous blood may be found red or black in secretory organs, accordingly as these are observed in a state of activity or repose. This consideration of the activity and repose of the organ, which correspond in some degree to its statical and dynamical conditions, appears to me to be an important point for introduction into the chemical and physiological study of the blood. In fact, it is not alone by its colour that the venous blood of an organ at rest differs from the venous blood of an organ in activity; but it presents also other important differential characters, which much depend upon a profound difference of the chemical constitution. Thus the venous blood of the kidney performing its function, which is red, is more diffluent, and sometimes even presents no coagulum; while the blood of the same vein, when the kidney has ceased to act, becomes black, and presents a consistent coagulum,

etc. Without doubt physiologists and chemists have already learned that venous blood cannot, like arterial blood, be everywhere regarded as identical, and that it is necessary to analyze the venous blood of each organ in particular; but what, I believe, has never yet been stated, and which, nevertheless, seems to me indispensably necessary to be henceforth considered, if we desire that chemical analyses should prove as useful as possible to physiology, is the separate and comparative examination of the composition of the venous blood of the same organ when in repose and in activity. From what has been stated above, we may predict that there will be often found greater differences between the two bloods of the same organ in the state of activity and of repose than between the corresponding bloods of two different organs. This point of view is not solely applicable to glands, but should be extended to all the organs of the body, the venous blood of which will now have to be studied under these two conditions. We may in some measure characterize each tissue by the very different modifications its functional activity impresses on the blood that traverses it. Thus, if the blood quits glands when active reddened, it leaves a muscle that contracts with a very black colour and different physical characters. The mechanism of these different colorations of the blood will necessarily receive its explanation through ulterior chemical analyses, of which we are only at present desirous of indicating the physiological conditions. We will conclude with the remark, that all these modifications which supervene in the blood as a consequence of the functional activity of organs are always determined by the nervous system. It is consequently at this point of contact between the organic tissues and the blood that we must acquire our ideas of the special part played by the nervous system in the physico-chemical phenomena of life. The development of the facts which relate to this point of general physiology will form the subject of an early communication."—*Med. Times and Gaz.*, Feb. 27, 1858, from *Comptes Rendus*, tom. xlvi. pp. 159—165.

5. *On the Properties and Uses of the Red Blood and of the Dark Blood.*—Dr. Brown-Sequard communicates several observations which strengthen him in the view that blood charged with oxygen, whether arterial or venous, has the power of re-establishing the vital properties of the contractile and nervous tissues, when applied within a certain space of time, after they have lost these properties. After having repeated Sir Astley Cooper's experiments, that animals die from asphyxia, when circulation is stopped in their four encephalic arteries, and that they recover almost immediately if the circulation is quickly re-established—Brown-Séquard ascertained that if the circulation takes place again a few minutes after the last respiratory movements had ceased, life does not re-appear. But the red blood then still possesses the power of re-establishing life, as insufflation of the lungs causes energetic movements of the limbs, while the head remains at rest as long as the pressure on the arteries continues; but as soon as the latter is removed, the encephalon resumes its functions, and the animal may be restored to full life, even fifteen minutes after the commencement of the compression. The same author found also that in heads separated from the trunk, injections of red blood—*i. e.*, blood charged with oxygen—may reproduce the actions of the encephalon (respiratory movements of the face, movements of the eyes, &c.). Further experiments have shown, 1. That the presence of fibrin in the blood is not necessary for this effect; 2. That serum alone does not possess this power; 3. That the blood richest in oxygen and globules does possess it in the highest degree—the globules acting probably only as bearers of oxygen. Another series of experiments regarding the properties of red and black blood, leads Brown-Séquard to the inference, that the red blood increases the vital properties by nourishing the tissues, but that it is incapable of making these properties appear by stimulating them; that the black blood is an energetic stimulant of the nervous centres, and also, but in a less degree, of the nerves and contractile tissues, but that it does not possess—or at least only in a small degree—the power of maintaining or regenerating the vital properties.—*B. and F. Med.-Chirurg. Rev.*, Jan. 1858, from *Compt. Rendus*, Oct. 19, 1857.

6. *Membrana Meconii, and Rete Vasculare, newly-discovered Structures existing in the Fœtus.*—Dr. B. Ridge asserts that in many instances he has proved the meconium of newly-born infants to be inclosed in a special covering, which he names the *meconic membrane*, and which is secreted by the *rete vasculare*—this being, as its name implies, a vascular network lying between the foregoing and the true mucous membrane of the intestines. The use of the meconium during fœtal life, he considers, is to keep the intestinal tube patent from end to end as a "proper stuffing;" and that of the meconic membrane, to prevent, by its interposition, the contact and consequent absorption of excrementitious matter by the lacteals and absorbent vessels of the alimentary canal. At the time when the new being is called into self-existence, the meconic membrane and rete vasculare, which have served their turn, begin to become detached from the infant; as, by the same rule, the placenta, which has answered as temporary lungs, is separated from the organisms of both parent and offspring. On some occasions, Dr. Ridge states that he has found the meconic membrane to come away with the conium itself at the time of birth; but this is by no means an uniform occurrence, as at other times, when retained together with the rete vasculare, both are subjected to chylification by the action of the bile: and the author attributes, in some degree, the healthy condition, or otherwise, of infants for a certain period after birth, to the amount of rapidity with which this process takes place.—*Lancet*, Nov. 28, 1857.

ORGANIC CHEMISTRY.

7. *On the Physiological Relations of Albumen.* By Dr. Hayden, Prof. of Anat. and Phys. (Read before the British Association.)—The inquiry of which this paper contains the first part, was undertaken with the view of determining the relations which subsist between the albumen and other organic constituents of the blood. It was suggested by the apparently anomalous fact, that in various conditions of the animal body—sometimes of confirmed disease, occasionally of temporary derangement—one of the staminal principles of the blood is eliminated in large quantity by the excreting organs; and regarding these, as I conceive we must, not only as depurants of the system, but likewise as adjuvants of nutrition to the extent of removing from the body superfluous alimentary matter, from whatever cause present, we are warranted in concluding that the state of the economy in which this occurs is one of repletion, or over-supply as regards the principle eliminated and the actual requirements of the body for that particular principle. It is well known that the "elements of respiration" may be stored up in the body by a process of deposition in the form of fat, to meet the urgent demand involving a large expenditure of these elements, to which variations of external temperature and other circumstances occasionally expose the animal. Not so, however, the plastic elements of nutrition: these are appropriated only as required for immediate use in the renovation of the tissues, and if from any cause one happens to be in excess in the blood, whether absolutely, as the immediate result of ingestion, or relatively by loss of some of the allied constituents, then a process which may be conveniently designated *elemental adjustment*, is set up, by which the principle in excess continues to be discharged from the system, till it attain the normal proportion relatively to the other staminal elements.

Many facts may be adduced in proof of this self-adjusting property in the blood. Kaupp asserts that the quantity of chloride of sodium excreted by the kidneys is usually in proportion to that ingested; but when, after prolonged abstinence from this salt, a large quantity of it is taken, then the quantity excreted in the urine is less than that ingested. Andral says that the first effect of hemorrhage on the constitution of the blood is manifested in a decrease of the corpuscles only, but if it be prolonged or repeated, the albumen and fibrin are found to have undergone a corresponding diminution, whilst, according to

Becquerel and Rodier, the equilibrium is not restored through the blood drawn, in which the corpuscles and albumen observe a regular and equal ratio of decrease with each subsequent bleeding. Andral further states that some females suffer during pregnancy a loss of corpuscles to the amount of twenty-seven parts in a thousand of the blood, and become anæmic; we know that it is in such cases more especially albumen is found in the urine of pregnancy. An absolute or relative decrease of the fibrin, as in scurvy and plethora, will give rise to hemorrhage, by which, in the words of Andral, "the equilibrium is spontaneously established between the fibrin and globules." Becquerel and Rodier analyzed the blood in fifteen cases of Bright's disease, and found a mean of 117.28 parts of corpuscles and 60.58 of albumen in a thousand; the decrease of albumen was greater in proportion to the length of time that had elapsed from the commencement of the disease. This has an obvious relation to the progressive diminution in the quantity of blood corpuscles, as evinced by the increasing pallor of the patient. In thirteen cases of chronic Bright's disease, in which the blood was analyzed by the same pathologists, it yielded a mean of 108.8 parts of globules and 55.93 of albumen per thousand, whilst the fibrin increased to a mean of 4.37. The blood occasionally found in the urine in these advanced cases exhibits a marked alteration in the physical character of its corpuscles, which are serrated or broken up into a *detritus*.

In order to determine the value to be attached to the views here enunciated, I performed some experiments, the result of which I beg to offer to the Association. The experimental portion of the inquiry had a threefold object: 1st. To determine the effect produced on the composition of the urine by inducing a relative or absolute increase of albumen in the blood. 2d. The action of urea on the blood-corpuscles as exhibited by the microscope; and 3d. The proportion of albumen contained in the serous effusion of renal and cardiac dropsy respectively.

The first-mentioned object I thought would be best accomplished by abstracting blood from living animals, the quantity to be such as to make a decided impression on the system, and determined by the absolute weight of the animal's body. It is obvious that the effect of a first bleeding of this kind on the constitution of the blood remaining in the body would be a decrease in the proportion of corpuscles, and a relative increase of the albumen. An absolute increase of albumen might be induced by bleeding an animal to a small amount, and then injecting into the vein an equal quantity of a solution of albumen, having the temperature and specific gravity of the serum of the blood. The contrivance adopted for collecting the urine was a wire-crib, placed on a concave zinc table, having an aperture conducting into a receiver fixed beneath; in this the animal was imprisoned till a sufficient quantity of urine was obtained for analysis, when it was liberated in order to take exercise till the next experiment. A rabbit, weighing 3½ lbs. was fed on cabbage, milk, and water; the urine passed next day was feebly alkaline, specific gravity 1.020, and free of albumen. The animal was then bled to six drachms, and fed on fresh grass and warm milk. The urine examined the following day presented the same reaction and specific gravity as at first, but became distinctly opalescent on the application of heat and nitric acid. A dog of 18 lbs. weight was fed on milk and oatmeal stirabout; urine neutral; specific gravity 1.020; contained no albumen. The animal was bled to eight ounces, on the 18th August; on 19th the urine collected during the previous night was examined and found neutral, specific gravity 1.030, contained traces of albumen. Examined again on 20th, the urine was found alkaline—its specific gravity had fallen to 1.020, but still a trace of albumen. August 21st, specific gravity 1.022; albumen as on yesterday. The quantity of blood taken in these two experiments was determined by the estimate of Welker, according to which the total quantity in the body of an animal is equal to one-thirteenth of its weight.

With reference to the detection of albumen in fluids containing only a minute trace of this principle, the aid afforded by the microscope deserves to be noticed: if a drop of the suspected liquid, the opalescence of which is barely discernible under the ordinary tests, be placed on a slip of glass under the microscope, and a drop of nitric acid added, a cloud of minute vesicles will be

observed to pass slowly over the field of view, and if the line of advance of this cloud be accurately marked, the suddenness with which the constituent vesicles start into view from an apparently structureless fluid, cannot fail to strike the observer. These minute bodies present a highly refractive margin with a light centre, and an average diameter of 1-10000th part of an inch.

A young dog, weighing 12 lbs. 7 oz. was next subjected to experiment; the urine collected before operating was free of albumen and alkaline; specific gravity 1.005; blood was now drawn from the jugular vein to the amount of 5 oz., and into the aperture in the vessel was injected half an ounce of fresh dilute ov-albumen having the temperature and density of blood serum; bread and warm milk were given as food and ravenously eaten. The following day it was found that no urine had been passed in the interim. August 27th, 4 oz. of urine were collected, neutral in reaction; of specific gravity 1.030, and highly albuminous, being almost gelatinized by heat and nitric acid. The albumen was coagulated and collected by filtration, next dried, pulverized, and deprived of impurities, by ether and boiling water, subsequently dried and incinerated; the total quantity of pure albumen thus obtained was nine grains. In order to determine what proportion of this was due to the ov-albumen injected, and what, if any, to the ser-albumen discharged in consequence of the loss of blood sustained by the animal, I endeavoured to ascertain the amount of pure dried albumen yielded by half an ounce of the white of egg, and found it to be 72½ grains. I had expected, and probably would have found, had the operative part of the experiment been in all respects successful, a balance in favour of the albumen excreted with the urine, as compared with the quantity contained in half an ounce of the white of egg; but unfortunately at the moment when the last portion of albumen was injected, and before a ligature could be applied to the open vessel, the dog struggled violently and caused a fresh loss of blood, with probably a more than proportionate loss of the albumen injected, as the bleeding occurred chiefly by regurgitation from the heart. Five ounces of urine were obtained from this dog on the 28th August; specific gravity 1.010; feebly acid, but no trace of albumen.

With reference to the next subject of inquiry indicated at the outset, namely, the visible effect of a strong solution of urea on the blood corpuscles, the result of my experiments was not as decisive as I had expected, yet it was sufficient to show that when exposed for a few hours to the influence of this agent in a concentrated form, the corpuscles undergo a considerable modification. They are much diminished in number, and those which have not disappeared are become tumid and spherical; the action, however, is by no means energetic.

The proportion of albumen contained in the different dropsical effusions next engaged my attention. I had reasoned thus, *a priori*. If albuminuria be the result of an effort of the blood to restore the equilibrium between its corpuscles and albumen, by ridding itself of a portion of the latter; if anasarca be a concomitant symptom of the same disease, and produced by the same cause, then we may not unreasonably expect to find an excess of albumen in the serum effused. In order to determine this point, it became necessary to institute a comparison between the fluids of cardiac and renal dropsy. I have been so fortunate as to obtain a sufficient quantity for examination from two patients affected with chronic Bright's disease, but failed in the short time allowed me to procure any from a case of cardiac dropsy.

This is the less to be regretted, since Andral's data are amply sufficient for our own purpose with reference to the latter disease, although as regards the former he has not supplied us with any information bearing on the point now under discussion, Andral analyzed the serous effusion in sixteen cases of cardiac dropsy, and found a proportion of albumen ranging between four and forty-eight parts in a thousand. The facts elicited by myself from the two analyses I have made, do not, I am bound to say, support the hypothesis with which I started, namely, that the percentage of albumen would be found higher in the fluid of renal than in that of cardiac dropsy. In the first case examined, the proportion was twelve, and in the second twenty-four parts in a thousand.

It will be observed that the higher of these two numbers stands midway between the minimum and maximum of Andral.

I now venture to submit, in the form of propositions, the inferences which I think may be drawn with at least the force of probability from the preceding data. The inherent property of *quantitative adjustment* in the blood, probably has reference mainly to nutrition, which would appear to require as an essential condition for its healthy exercise, certain fixed mutual proportions between the constituent elements of the blood, but in part also to the maintenance of the normal relative density between its serum and corpuscles. The appearance of albumen in the urine is either transitory or persistent; when transitory it is produced either by an error of excess in the use of protein substances of which the blood seeks to relieve itself through the kidneys, or by a state of congestion of these organs in which the blood serum transudes through the walls of the renal capillaries and is discharged with the urine. When persistent it is probably always the result of loss or solution of the blood corpuscles, and produced by an inherent self-regulating property in the blood, by which the normal proportion between its constituent elements is sought to be re-established. In acute renal dropsy, the *point de depart* in the blood changes would appear to be loss of albumen; but in the chronic form of the disease, attended with uræmia, the starting point probably is solution of the corpuscles. The loss of albumen experienced by the blood in Bright's disease, would appear to be inversely proportioned to the degree in which it appears in the urine, and it may be in the dropsical effusion likewise. The quantity of fibrin in the blood is regulated in great part by that of the corpuscles, not by adjustment, but in virtue of the causal relation subsisting between the disintegration of the one and the formation of the other. Diminution, therefore, of the quantity of globules in the blood will not necessarily cause elimination of the fibrin, because it involves diminished production of the latter; but the converse of the proposition will not hold, as diminished proportion of fibrin, by whatever cause produced, may give rise to elimination of the blood corpuscles in the form of hemorrhage.—*Dublin Hosp. Gaz.*, Oct. 15, 1857.

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8. *On the Chemical Changes in the Air during Respiration.*—Dr. Harley has published (*Virchow's Archiv.*), some experiments which he made under the supervision of Bunsen, at Heidelberg, on the interchanges between the blood and its various constituents and atmospheric air. He found that blood which has been repeatedly shaken with successive portions of air, till it had *apparently* given up all its carbonic acid, and become saturated with oxygen, when left for twenty-four hours in an hermetically sealed vessel, with an equal volume of air, and frequently shaken, underwent a further change of the same character. In one case, the air lost 10.54 per cent. of oxygen, and gained 5.05 of carbonic acid. In another, the loss of oxygen was 9.63 per cent., and the gain of carbonic acid 5.96. In both experiments, the ratio of the oxygen lost to the carbonic acid gained is greater than is accounted for by the usual law of interchange during respiration, which inclines the author to the belief that part of the oxygen is used for the formation of water. He confirms Scherer's observation that fibrin has the power of absorbing oxygen, and giving off carbonic acid; and shows that albumen possesses the same property, but in a minor degree. The interchange of gases was, of course, always much greater when the coagulum was employed, than with serum only, a result which agrees with some of Brown-Séquard's observations, presently to be noticed, on the relative capabilities of blood and serum for absorbing oxygen. The power of hæmatin to absorb oxygen and give out carbonic acid is very great, a power which Dr. Harvey thinks is common to all colouring materials, both in the animal and vegetable world.—*Hornidge's Report on Anat. and Physiol.*, in *Midland Quarterly Journ. Med. Sci.*, Jan. 1858.

MATERIA MEDICA AND PHARMACY.

9. *Influence of Liquor Potassæ and other Alkalies on the Therapeutic Properties of Henbane, Belladonna, and Stramonium.*—Dr. A. B. Garrod read an interesting and important paper on this subject before the Royal Medical and Chirurgical Society (Nov. 24, 1857). He first alluded to the frequent exhibition of henbane with liquor potassæ, and brought forward many proofs that such combinations were often administered. He also stated that the like mixtures were recommended by both medical and surgical authors. Dr. Garrod then proceeded to detail experiments, which demonstrated beyond doubt that the active principle of henbane was destroyed by liquor potassæ and other caustic alkalies; and that such a combination was inert, both when topically applied (as evidenced by the absence of power in causing dilatation of the pupil of the eye), and also when internally administered. Similar observations were next detailed upon the preparations of stramonium and belladonna, and the results were found to be the same. It was, however, shown that the carbonates and bicarbonates of the alkalies were devoid of the property of destroying the activity of the plants. In some of Dr. Garrod's experiments as much as a drachm of the extract of henbane and an ounce and a half of the tincture were administered in combination with potash without the production of the slightest symptom.

The results arrived at in the communication may be thus summed up:—

1st. Caustic alkalies, such as exist in liquor potassæ or liquor sodæ, entirely destroy the activity of henbane, preventing its action on the pupil when topically applied, and its influence upon the system when internally administered; and, combined with a proper amount of these alkalies, the largest doses of the preparations of henbane may be given without the production of any symptoms.

2d. The same influence is exerted by the fixed caustic alkalies upon belladonna and stramonium.

3d. The carbonates and bicarbonates of potash and soda produce no injurious effects upon the preparations of any of the three above named plants.

The deductions naturally to be drawn from these results are:—

a. That neither liquor potassæ nor any caustic fixed alkali should be prescribed with tincture or extract of henbane, as the virtues of the latter drug are thereby completely neutralized.

b. That when it is desirable to administer an alkaline remedy with henbane, either a carbonate or bicarbonate should be selected, which would probably be equally efficacious upon the stomach, if such influence be required, and certainly as efficient in altering the condition of the urine, and the mucous membrane of the urinary passages.

c. That the same precautions should be observed with regard to belladonna and stramonium, if at any time prescribed in conjunction with alkalies.

To a question whether the caustic alkalies were an antidote to the poisons under discussion, Dr. Garrod stated that he did not think caustic alkali could be introduced as an antidote, because it would require alkali of such a powerful character, or in such large quantities, that it would be injurious to the coats of the stomach. He had no doubt that the destructive action of the alkali commenced at the moment it was mixed, but in order to effect complete neutralization a larger quantity would be required than it would be safe to administer. He could, however, communicate to the society an antidote for henbane, belladonna, or stramonium, which was perfectly efficacious. It had been used on his own person a year and a half ago. It was animal charcoal. If we took a solution of any of these poisons, and added but a small amount of animal charcoal, the effect on the system was entirely destroyed. It required only a few grains of animal charcoal to destroy completely, or rather neutralize and render of no avail, belladonna. The same applied in a greater degree to stramonium and henbane, which were weaker than belladonna. About a year and a half ago, he took by accident twelve grains of the dried

leaf of the belladonna, and a gentleman, a patient of his, took about a quarter of an ounce of dried belladonna. To both of them animal charcoal was administered, although almost too late. Both of them recovered; the gentleman who took the quarter of an ounce, completely. He was perfectly certain that if animal charcoal could be administered when these vegetable poisons had been taken, it would prove completely efficacious. Of course, it was necessary that the antidote should be administered before the poison was absorbed into the system. If it had passed out of the stomach into the system, of course no antidote would have any effect. He could detail an experiment which he had tried more than once. He had given a dog a dose of aconite, and he had given to a second dog thirty or forty times that dose, combined, however, with a small amount of animal charcoal. The first dog died, but the dog to which the animal charcoal was administered experienced no ill effects. He was perfectly convinced that animal charcoal was the most powerful antidote, better than any of the alkalies, because, in the first place, the alkalies required time, and, in the second place, they had to be given in large quantities, and, of course, would be liable to injure the mucous membrane of the stomach and the intestines. It was not necessary to have purified animal charcoal; common bone black would be sufficient.—*Med. Times and Gaz.*, Dec. 5, 1857.

In a very recent journal (*Lancet*, Feb. 27th, 1858), Mr. JOHN F. FRANCE relates some experiments, the results of which are entirely at variance with those of Dr. Garrod.

Mr. France mixed liquor potassæ with belladonna, and also with hyoscyamus, in various proportions, and found their combination, when applied to the eye, always produced dilatation of the pupil. If the peculiar influence of belladonna and hyoscyamus on the iris, be adopted as the criterion of their therapeutical activity, that activity—Mr. France says—remains unimpaired by their admixture with liquor potassæ.

The subject is well worthy of further investigation.

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10. *Experiment on Colchicine, and the Comparative Action of the Dry Bulbs and the Seeds of Colchicum.* By Professor SCHROFF, of Vienna.—The colchicine employed was a light powder of crystalline appearance, of a clear yellow colour, of a very bitter taste, afterwards grating to the throat. It was not altogether pure, for then the substance is colourless and crystallizes in needles. It is soluble in water, alcohol, and ether; the watery solution has a feeble alkaline reaction. In order to study the taste of this substance, M. Heinrich took $\frac{1}{100}$th of a grain of colchicine, and soon after he experienced eructations and great nausea, with augmentation of the saliva. The nausea lasted some hours, even after supper, which was taken without appetite. The pulse fell gradually eleven pulsations in the first two hours. Eight hours afterwards the same observer took $\frac{8}{100}$ths, enveloped in a wafer; it was then half past four o'clock in the afternoon. The pulse was not changed in the first two hours. Until eight o'clock in the evening, nothing was evinced except eructations and slight ptyalism; supper was taken without appetite. After ten o'clock there was broken sleep, from which M. Heinrich was awoke at half-past one by painful dreams; he had desire to go to stool, but he had scarcely left his bed when the nausea increased, bringing on a fit of vomiting for two minutes; at the same time there was a very soft and copious stool, accompanied with violent griping. This painful scene was renewed three times at short intervals. The first matters vomited consisted of the undigested dinner and supper, then there was a greenish-yellow and bitter liquid. About three o'clock he again went to bed, and slept till six o'clock, when fresh and abundant vomiting and painful alvine evacuations of a mucilaginous greenish-yellow liquid supervened. The vomiting ceased from that time, but eructations, nausea, and total absence of appetite lasted for four days. Thus, the first day after the experiment, M. Heinrich took nothing but cold water, and the three other days, only a little soup. The abdomen was tympanitic, sensitive, and gurgling. The second day there were two stools, on the third, one, and on the fourth, three, accompanied with griping, and containing, particularly on the second and third day, numerous flocculi, similar to coagulated white of egg.

The weakness, already considerable on the first day in consequence of the abundant evacuations, increased at the time of the appearance of febrile phenomena; M. Heinrich was obliged to keep his bed the first day, and could not leave it without difficulty on the three following days. The fever commenced towards the middle of the first day, with shivering, followed by great heat, lasting for several hours, with thirst, very much accelerated pulse, cerebral distress, agitation, and want of sleep. The sensibility of the abdomen disappeared only on the fourth day. The quantity of urine could not be determined, in consequence of the frequency of the stools; this liquid was thick, and had an abundant white deposit.

Colchicine acts like acrid substances in general, and only after being absorbed. The stomach and intestinal canal are the parts on which it especially acts; the brain and the spinal cord remain altogether unaffected, or rather experience only secondarily some vague functional disturbances which are not constant. Death results probably from paralysis of the heart. The blood does not coagulate; it thickens, becomes black and pitchy, such as is found in the most violent cases of cholera; it accumulates in great quantity in the right cavities of the heart, very little in the left auricle. It is not possible to know if the colchicine passes into the blood and urine unchanged, or whether it undergoes modifications.—*B. and F. Med.-Chirurg. Rev.*, Jan. 1858, from *L'Union Med.*, June 9, 1857.

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11. *Emmenagogue Action of Achillea Millefolium.*—Dr. Ronzier-Joly feels convinced that the *Achillea millefolium* has a decided power in promoting the uterine functions, and records two cases in support of this opinion. In the first case, the patient, who was nineteen years of age, was attacked with a slight sore throat, and in the course of the complaint the menses appeared, but so scantily that only a few drops of blood were passed, and the period ceased the same day. As the sore throat became worse in spite of treatment, it was thought that the appearance of the menses might be attended with a radical cure, and the millefolium was administered. The menses returned in abundance, and lasted two days. In the other case, a woman was delivered of an infant, and was going on well for two days, but on the third she was seized with fever and delirium, and the lochia were suppressed. Sulphate of quinine was administered in the intervals of the fever, and as the lochia did not reappear, in spite of revulsions to the lower limbs, the millefolium was administered as well as the quinine. The lochia reappeared the next morning, and nothing unfavourable afterwards occurred.—*B. and F. Med.-Chirurg. Rev.*, Jan., 1858, from *Bull. Gén.*, June 30, 1857.

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12. *Defects of Ordinary Escharotics with Suggestions for their Improvement.*—Mr. Ellis read before the Western Med. and Surg. Soc. of London, Dec. 4, 1817, some notes on this subject. After giving a definition and general history of escharotics, the author made some observations upon the mode in which they affected the tissues, either by destroying their continuity, organization, and life, by combining with them, or by a mutual decomposition forming new compounds. He then remarked upon the various chemical effects of acids, alkalies, and metallic salts; the first acting as oxidizing agents, the alkalies forming compounds with albumen and fibrine, and the metallic salts uniting with albumen to form metallic albuminates. Enumerating the acids in general use as escharotics, nitric, hydrochloric, and sulphuric, he gave the preference to nitric acid, but stated that he had found a difficulty in procuring it of sufficient strength, and of a sp. gr. of 1.50; he thought its utility much impaired by its fuming property and intense rapidity of action; also from the sore made by it being very superficial and its effects not being permanent. Hydrochloric acid he considered should have a sp. gr. of 1.21, but it was feebler than nitric acid. Sulphuric acid he stated was weaker than nitric, but stronger than hydrochloric acid; it had its advantages in not fuming; for obvious reasons it should be applied by means of asbestos. The author then gave his experience of the alkaline escharotics, hydrate of potassa, and potassa c. calce, the former of which, he said, although strong and quick in action, was defective from its deliques-

cence, its liability to spread, and its friability; the latter, although comparatively free from the above objection, was sometimes followed by hemorrhage. As Mr. Ellis was chiefly alluding to the use of the above escharotics to the os and cervix uteri, he had found in the friability of potassa c. calce a great defect, also that great contraction of the canal of the cervix followed its application. Of the metallic salts he observes that nitrate of silver was extremely valuable as a mild escharotic, and that its effects were quite superficial. As usually sold he had found it much adulterated, which greatly depreciated its value; he recommended the crystallized salt to be used instead, and melted into sticks when required.

Another defect he had found in its brittleness, which rendered it dangerous when applied to a part like the inner surface of the cervix uteri. To obviate this evil he has been in the habit of melting the caustic in a small bullet-mould having a core; this gives him a small globe, with a hole running through it, which, by means of a pin, is easily fixed to the holder.

Chloride of zinc he showed to be an extremely powerful and valuable agent; that it acted quickly and deeply. He uses it mixed with flour, and made into a paste with water.

Deliquescence and giving great pain were its principal defects.

Having made a few observations upon the actual cautery, he concluded by exhibiting the implements he used in applying the various escharotics he had just mentioned, and the mechanical contrivances for melting the nitrate of silver, and attaching it to the holder.—*Med. Times and Gaz.*, Jan. 9, 1858.

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13. *Sulphuric Acid and Sulphate of Zinc as a Caustic Agent.*—There is an important chemical principle involved in the application of sulphuric acid for the destruction of living tissues, which is that the acid mainly acts upon organized matters, by its powerful tendency to combine with the elements of water contained in them, so that the carbon is left free, forming the black charcoal-like mass with which we are familiar as the result of its action upon all such tissues. Now, the more concentrated is the acid, in its liquid form, the greater is its power to decompose animal or vegetable tissues by abstracting the elements of water. It is desirable, therefore, in adding material to the acid for the purpose of giving it the form of paste, that the substance employed should not be an organized matter capable of furnishing water to the acid, and so weakening its caustic power, but a substance which should add fresh caustic power, so as to produce a combination possessing the greatest possible degree of caustic force. The dried sulphate of zinc suggested itself to Mr. Henry Thompson as such a material; and upon trial it has fully answered his expectations. He prepares it as follows:—

"The ordinary sulphate of zinc is to be dried in an oven or sand-bath, so that the water of crystallization is driven off, and a whitish powder remains. Enough of this is to be added to some strong sulphuric acid, in order to make a semi-fluid mass of consistence sufficient to prevent its running beyond the spot on which it is placed. The mixture should be kept in a stoppered bottle, and be applied with a small glass spatula or rod. Before using it, the surrounding parts should be protected by a thick layer of cerate or firm ointment, so as to form an embankment limiting the surface to be destroyed, and a layer of the caustic may be made upon this of about the eighth or tenth of an inch in thickness. This is allowed to remain. As in the case of other caustics, I believe, the pain is less in the superficial than in the deeper diseased tissues."

One advantage of this combination consists in the ease with which it is prepared, and the facility with which its constituents may be obtained.—*Lancet*, Jan. 9, 1858.

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14. *Administration of Cod-liver Oil, and Substances soluble in it, in Capsules.*—Many patients object to taking cod-liver oil in consequence of its unpleasant flavour. It occurred to Mr. T. Spencer Wells that this objection might be obviated by inclosing the oil in membrane capsules. This has been done by Messrs. Evans and Lescher, and Mr. Wells is now in the habit of prescribing these capsules containing cod-liver oil only, or holding in solution quinia, the

iodide of iron, and the biniodide of mercury. "Each capsule," Mr. Wells states, "contains twenty minims of the oil, and the dose of the quinia, or iodide, may be varied. Patients who object very much to the oil think nothing of taking three, or even half a dozen, capsules three times a day.

"The combination of biniodide of mercury with cod-liver oil is particularly useful in some of the chronic syphilitic superficial diseases of the skin and mucous membranes. A tenth or twelfth of a grain with a drachm of the oil in three capsules, three times a day, I have found to answer admirably in cases of chronic pityriasis and psoriasis, with superficial ulceration of the fauces. In some of the chronic joint affections of scrofulous subjects, the iodide of iron, given in the same way, but in larger doses, is also very efficacious. When it is desired to give iron in the oil without iodine, and to give larger quantities, the wafer paper, so much used for taking the cubeb and copaiba paste, answers extremely well. A paste may be made of the sesquioxide of iron—the so-called carbonate—by mixing up with it a sufficient quantity of the oil. A teaspoonful of this paste, enveloped in wetted wafer paper, is swallowed without the least difficulty or unpleasantness by any one who can take a pill.

"In many cases of secondary syphilis in persons of broken down constitution, it is desirable to combine the iodides of mercury and iron. In this combination, the iodide of mercury becomes soluble, and it may be given either in the oil in capsules or in the form of a very elegant syrup, which Mr. Bastick prepares. In prescribing this, however, the ordinary dose of the iodide of mercury must be considerably lowered, as the action becomes much more powerful when the salt is made soluble. The syrup is prepared of various strengths; but in the proportion of a quarter of a grain of the iodide of mercury to two grains of the iodide of iron in a drachm of the syrup, it will be found extremely useful, and not very disagreeable."—*Med. Times and Gaz.*, Dec. 5, 1857.

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15. *Preparation of Iodide of Calomel.*—The chemical compound called iodide of calomel, discovered in 1847, by M. Boutigny, was prepared by mixing protochloride of mercury and iodine in the relation of one equivalent of iodine and two equivalents of the protochloride, and it consists of a mixture of calomel with biniodide and bichloride of mercury. It is consequently less active than the two latter salts, but more active than the protiodide and the protochloride, and is very much celebrated in the treatment of certain affections of the skin, particularly in acne rosacea. M. Gobley endeavours to render the process of M. Boutigny more practical and more easy of application. He takes iodine reduced to powder in a mortar, and mixes it with calomel, and then introduces the mixture into a small glass retort. This is then placed upon a sand-bath, and some moments afterwards the mass is seen to assume at first a greenish tint, and then enter into fusion. The retort is withdrawn, and the mass soon solidifies; it is at first greenish, then in the air it becomes gradually red, and at last it remains so. The iodide of calomel is employed in pills and as a pommade; the former are prepared by mixing it together with gum arabic, crumb of bread, and orange-flower water; the latter is made by mixing it in powder with lard.

M. Bouchardat has lately announced that there are two iodides of calomel—one which may be called a protiodide, and the other a biniodide; and M. Perrens has proposed to prepare the two iodides, differing from one another not only in their physico-chemical character, but also very probably in their therapeutical action. They are prepared in the same manner, except that one compound is formed with half the quantity of calomel which is employed for the other.—*B. and F. Med.-Chirurg. Rev.*, Jan., 1858, from *Bull. Gén. de Thérap.*, Sept. 15, 1857.

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16. *Lotion for Strumous Glands.*—The following application neither stains the neck, nor annoys by its smell, while it acts with greater energy than the ordinary iodine ointments: Dissolve ʒj of iod. pot. in aq. dest. and eau de Cologne, āā ʒj, and spt. vini r. ʒvj. It is to be employed in frictions morning and evening.—*Med. Times and Gaz.*, Jan. 16, from *Omodei's Annali Univ.*, vol. clxii.

17. *Cocoa-nut Oil Ointments.*—The cocoa-nut oil is a more eligible body for the formation of ointments than lard, keeping much better, not staining the linen, and admitting of more complete absorption. To render the oil of commerce fit for pharmaceutical employment, it is in general sufficient to liquefy it at a moderate temperature, and strain it through linen. But if it retains its peculiar odour too strongly, and is of too yellow a colour, it may be purified by digesting it for some hours in a water-bath, with some coarsely powdered vegetable charcoal, and filtering it while warm through paper. The following are some of the formulæ that have been tried with success: ℞.—Iod. pot. ʒj; ol. cocos ℥j. ℞.—Ext. bellad. ℈j; ol. coc. ʒiij. ℞.—Veratrini gr. iij; ol. coc. ʒiij. ℞.—Sulph. quin. ℈j; ol. coc. ℥j; ol. rosar. gtt. x (very useful in pityriasis capitis). ℞.—Chlorof., ol. coc., āā ℥j (of great service in neuralgic and rheumatic pains, rendering the chloroform more fixed, and its action more durable). ℞.—Ol. terebinth., ol. coc., āā ℥j. ℞.—Hydr. ox. rub. gr. iv.; ol. coc. ʒij.—*Ibid.*

18. *Proposed Substitute for Oils and Fats in Ointments.*—The application of cerates and ointments to diseased and tender surfaces is attended with certain inconveniences, among which may be mentioned their insolubility in water, and consequently the difficulty of removing them; their liability to become rancid, and the insolubility of most of the remedies in fat.

Mr. Startin, some ten or twelve years ago, introduced a combination of glycerine with amylaceous substances, as a basis of ointments.

Very recently (Jan. 6, 1858), G. F. Schacht, in a communication to the Pharmaceutical Society (London), proposed as a substitute for these ointments, a mixture of glycerine and starch. The proportions which have given him the most favourable results are glycerine, f℥j; starch powder, 70 grs. The entire process consists in mixing the ingredients cold, and heating the mixture gradually to about 240° Fahr., constantly stirring.

This constitutes a basis, with which may be produced preparations corresponding to most of the cerates and ointments of the Pharmacopœia.

Mr. Schacht has adopted for this preparation the name of *plasma;* a better name is *glyceramyl*, or, which has been proposed, *glysamyl* (from glycerine and amyline).

We have employed this preparation in a few instances, and thus far with very satisfactory results.

MEDICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL MEDICINE.

19. *Treatment of Diabetes by Sugar.*—Two years ago Andral reported a case of saccharine diabetes, in which the general condition of the patient did not improve, and the quantity of sugar increased during total exclusion from the diet of all saccharine elements. The addition of these elements to her food was followed by a diminution in the amount of sugar excreted. This alteration, however, was temporary only; and at the end of three weeks from the adoption of this plan, the urine contained 54 grammes to the pint, its acme before having been only 49. Andral further states that this is not a solitary case. Piorry more lately has noticed the inefficacy of an unmixed diet, and has recommended that the patient should be supplied with sugar candy in large quantity.

Dr. Budd has tried the plan in the case of a diabetic man, who, "within a few days after his admission, was put on a diet consisting entirely of meat, eggs, carefully prepared diabetic bread, a small quantity of butter, and a few ounces of wine. Under this regimen, contrary to what usually happens, the diabetic symptoms began to grow worse almost from the first." During the first week after his admission, the quantity of urine varied from 9 to 12½ pints

its specific gravity from 1039—42. "The quantity of urine rose in the course of a week from 9 to 17 pints, its specific gravity remaining much the same. The patient's thirst increased, and he became daily thinner and weaker. At the end of that time, an attack of diarrhœa occurred, which lasted, with more or less severity, very nearly ten days. During that interval he took very little food, and the precise amount of urine passed could not be estimated. When the bowels had become settled, he was found to be voiding from 7 to 10 pints of urine per diem, of specific gravity ranging from 1036 to 1044. On March 31st (twelve days after admission), the stomach rebelled so much against the diabetic bread, that six ounces of common bread were allowed in place of it; and these six were soon after raised to sixteen. His health now began to improve somewhat, and he gained a little in flesh and strength. The diabetic symptoms proper remained much as before.

"This improvement, however, was not of long continuance. In the beginning of May, he had become so weak as to be obliged to keep his bed. His tongue was very dry and brown, his pulse had become frequent, and he was much harassed by cough and pain in the chest." He seemed to be sinking. On the 22d of May, Dr. Budd reversed his "plan of treatment, and ordered the patient to be put on a varied and generous diet, with the addition of eight ounces of sugar candy, and four ounces of treacle daily. This change had very little effect at first, either on the quantity of urine passed, or on its specific gravity. It is worthy of remark, however, that what little there was, was in both respects on the side of diminution. The effect on the general health was marked and immediate. * * * As he became stronger, the diabetic symptoms also gradually lessened—to such a point, indeed, that on the 22d of July, exactly two months after the adoption of the new scheme, only three pints of urine, of specific gravity 1032, were passed in the twenty-four hours; and yet at this very time the patient was taking, in addition to much vegetable food, as much as *eight ounces of sugar and six of honey daily*—the honey having been substituted, at his own desire, for the treacle previously given. Since that time, the quantity of urine passed has somewhat risen, its present daily average being from four to five pints, of specific gravity varying from 1032—34. In other respects, his state is very satisfactory. He is ruddy, looks in very good condition, and declares himself to be strong and well. His tongue is moist; he no longer suffers from thirst: and his skin, from being dry and harsh in the extreme, has become soft and natural. He has increased in weight from 107 lbs., which was what he weighed shortly before beginning the sugar treatment to 126½ lbs." "That a diabetic man should not only recover his health by eating sugar, but that his diabetic symptoms should also very nearly vanish under the same treatment, is a fact that stands in startling antagonism to all present views, as well as to all prior experience on the subject."

Dr. Thomas Williams, Physician to the Swansea Infirmary, has made trial of this plan of treatment in two cases.

Before the experiment, Dr. W. states (*British Med. Journ.*, Dec. 19th, 1857) that both patients had rigorously adhered to a non-saccharine dietary; that in Case A, the urine had scarcely ever, for six months previously, varied from 1040 in specific gravity, and three pints in quantity, in the twenty-four hours; that in Case B the conditions were very nearly the same, although not quite so unfluctuating.

In twenty-four hours after the change of diet in Case A, the urine increased from three pints to four pints and a half, and from 1040 in specific gravity to 1042. In forty-eight hours, under the same diet, the quantity rose to five pints and some ounces, and the specific gravity to 1050. In another twenty-four hours, being the third day from the commencement of the experiment, the volume rose to six pints, and the specific gravity to 1056.

Case B exhibited almost precisely the same change. The urine increased in quantity and density, in the same time in an equally remarkable degree.

Neither of the patients could be prevailed upon to continue the experiments any longer. Both grew rapidly worse in every respect, and became greatly alarmed. The thirst grew more and more unquenchable. The skin became

drier and drier; the bowels were every day more constipated; the mind passed from a calm state into a condition of rapidly increasing excitement, in one bordering almost on mania. The symptoms in every sense exchanged the passive for the active condition. Both patients regained their former tranquil feelings by the use of opium for three or four nights; and it was only slowly that the urine returned to its former physical properties. These two gentlemen emerged from this ordeal with the deeply-rooted convictions that the old system was the best; that practice is above and beyond theory; that the rule of contrarieties is preferable to that resting its airy claims on fancied similitudes.

Dr. George Corfe, on the contrary, in a more recent communication (*British Med. Journ.*, Feb. 6th, 1858, relates a case in which he considers the sugar to have been beneficial.

The subject of the case was a tradesman, 40 years of age, whose symptoms had been creeping on him for five or six weeks. When seen by Dr. Corfe, Nov. 14th, 1857, his urine was loaded with sugar, and sp. gr. 1049.

He was immediately put upon the following treatment: ℞.—Creasoti ♏iv; mist. acac. ℥ss; aquæ carui ℥j. M. Fiat haustus ter in die sumendus.

In addition to the above, he was directed to take a tablespoonful of cod-liver oil in milk after each meal. The usual diabetic diet, consisting of underdone meat, greens, eggs, milk, and bran biscuits, was prescribed, with a total abstinence from saccharine, farinaceous, and amylaceous substances.

From this period to December 1st (two months) the patient became more or less dispirited at the manifest downward course the disease was assuming. The urine gradually increased in quantity, and the specific gravity ranged from 46 to 52, his vigour was fast waning, the disease assumed a most formidable character, and threatened to cut short his life in a few weeks. By the aid of polarized light, Professor Heisch ascertained that the urine at this period contained 100.28 grains of sugar in 1000 parts, or less than two ounces in each pint.

The weight of the patient at this stage was only 114 pounds, and as the symptoms were assuming every day a more dismal character, Dr. Corfe resolved on changing the whole line of treatment as follows. The patient was now directed to take zinci sulph. gr. ij; cinchoninæ sulph. gr. j; extracti lupuli gr. ij, in form of pill, with each meal, in lieu of the creasote mixture, and to continue the cod-liver oil. He was desired to use the following articles of diet: fat mutton and beef, and the same meats in form of soups; fresh white fish boiled; oysters, poultry, game, tripe, and any one of the following vegetables, daily, parsnips, turnips, carrots, spinach, greens, brocoli, endive, lettuce, celery, and to abstain from bread and all farinaceous food, and potatoes. His drink was directed to consist of a cup of coffee, with half an ounce of candy sugar, in the morning; a tablespoonful of rum in a glass of water, with the same quantity of sugar candy, and five grains of carbonate of ammonia, at luncheon, and two glasses of claret at dinner. In the evening, he was desired to take one ounce of honey on bread, in lieu of butter, and to sup on boiled milk, with an egg, etc.

After having continued this line of treatment from Dec. 17th to the 30th, the following results were obtained: the urine increased from four to eight pints in twenty-four hours, the specific gravity was 1050; it gave proof of containing, by polarized light, 112 grains in 1000 pints, or rather more than two ounces in each pint, and yet he had not lost in weight more than one pound. It should be here remarked, that he frankly acknowledged that he had not followed the directions of treatment in so strict a manner as he could have wished; for, although he felt stronger and more lively in mind, he had been to several festive parties, and had eaten freely of potatoes and bread on several occasions, and had drank beer, or bottled stout. But, after being reprimanded severely for his indiscretion, he faithfully adhered to the prescribed form of dietary. The pills were now increased one grain of each of the sulphates in strength, and on the 17th January, the urine had a specific gravity of 1038, containing 83 grains in 1000 of sugar, that is, a diminution of more than a quarter of an ounce in each pint of fluid, and for eight days prior to this report, the quantity never exceeded four pints in twenty-four hours.

The patient gained flesh and strength. The following shows his progress:—

	Weight. lbs.	Urine. Pints.	Fluids taken. Pints.
1858. Jan. 15	120	5	5
" 18	121	4½	4½
" 21	124	3	3
" 25	129½	2½	3
" 28	132	3¾	3½

He can now attend to business comfortably; he can walk four miles an hour well. Perspired freely last night in bed, and exertion to-day induces a moisture also.

The urine, Jan. 29th, was muddy, acid, sp. gr. 1032, and contained only 20 grs. per 1000 of sugar.

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20. *Bronzed Skin—Disease of the Supra-renal Capsules.*—At a recent meeting (Feb. 9th) of the Royal Medical and Chirurgical Society, a paper by Mr. Hutchinson was read, entitled "Some Particulars of a Case of Marked Bronzing of the Skin." The following brief abstract of this paper, and the report of the discussion which followed, will be read with interest as exhibiting the opinions of some of the prominent members of the profession in London, in regard to this important, and, until lately, unnoticed disease.

The woman, whose malady formed the basis of Mr. Hutchinson's communication, was exhibited to the Fellows, and was declared by Dr. Addison to be a good example of that peculiar condition, both of general health and discoloration of skin, which he has found so frequently connected with disease of the supra-renal capsules. Mr. Hutchinson's notes embraced the usual history of these cases. He gave his reasons for arriving at the confident opinion that this was a genuine example of diseased supra-renal capsules, as well as those which induced him to conclude that both organs had probably been destroyed as long as two years, and called attention to the two important points thus illustrated—viz., the length of time during which life may be prolonged in the human subject after destruction of those organs, and, consequently, the necessity for caution in the attempt to deduce conclusions from experiments on the lower animals.

Dr. Addison remarked, that in a matter somewhat novel, and so extremely imperfect, it was natural that any one, although deeply interested in it, must feel considerable reserve in speaking upon such slender testimony as at present existed. If not irregular, he would refer briefly to a case of this kind, brought before the Society a short time ago, as affording what he considered the most perfect and unequivocal, and at the same time the most terrible illustration of the disease to which the attention of the Society was directed. The case was that of a young lady, only eighteen when she died, who was amiable, intelligent, and accomplished, and till about two years before her death, during which period she had been observed to lose health, and strength, and colour, was apparently sound and healthy. When he went to Ashford to see her, he was very much struck with her appearance; for a more terrible sight of disease he never beheld. She was darkened, almost blackened, as if stricken by some supernatural power; she was anæmiated, had a pulse like a thread, and so feeble was the circulation that she could not sit upright without becoming blind. He could not, therefore, entertain a doubt about the case, and did not hesitate to express his confidence respecting it. In no long time she died. At the post-mortem examination there were present besides himself three medical gentlemen, who had been struck during life by their inability to detect a sign of disease in any organ. The body was not particularly emaciated; there was a fair supply of fat in the omentum and the region of the abdomen. All the abdominal viscera were found perfectly healthy. The only vestige of a disease was a small pediculated cyst, about the size of the kernel of an almond, attached to one of the broad ligaments, which he supposed could not have much to do with the malady. A healthier chest he never saw; there was not the slightest adhesion even between the pleura; the lungs collapsed, but

were perfectly free from all deposit and trace of disease. The heart, as might be expected, was feeble and flabby; but there was no disease of the organ. They then proceeded to examine the supra-renal capsules. Those capsules were greatly enlarged, especially the left, and both of them were universally converted into a bag of pus, which escaped in considerable quantity. Now, suppose that the symptoms were not resulting from disease of the supra-renal capsules, but from a diseased condition connected with some other lesion not yet discovered, what were the chances of finding these organs diseased? The chances were almost incalculable; and they became much more strongly so when it was remembered that there was no other organ in a diseased condition. The conclusion, therefore, appeared to him inevitable, even if there were no other cases on record, that the discoloration in this case did result from disease of those organs, and probably from disease of those organs alone. We knew, however, that these organs were situated in the direct vicinity, and in contact with the solar plexus and the semilunar ganglia, and received from them a large supply of nerves; and who could tell what influence the contact of these diseased organs might have on these great nervous centres, and what share that secondary effect might have on the general health and in the production of the symptoms presented? He did not know whether there had been hitherto sufficient carefulness of examination to ascertain whether any positive lesion existed in the tissue of the nervous structure; certainly in the case to which he had referred it had not been ascertained. There were, indeed, many objections and difficulties raised upon the subject, and he had seen enough of modified cases to justify many of them. Suppose, for instance, these organs played an important part in the functions of the body, however slowly their lesion might affect the general health or destroy it, it was not impossible to suppose that they might be variously diseased, and in various degrees, and the effects correspond with these various degrees of morbid condition. He could very well understand that the organs might be even functionally diseased, and there might be more or less of the discoloration, and the other symptoms that had been described, without any organic lesion at all, as was the case with other organs of the body. Some time ago a man called upon him with the symptoms of the disease strongly marked; but by good support, sending him into the country, and giving him ammonia and other stimulants, he had shaken off a great deal of the want of tone and energy he formerly manifested, and considered himself, no doubt justly, very much better. He had also a woman in Guy's Hospital, who had a psoas abscess in addition. That woman had been very deeply discoloured, and her constitution appeared very powerfully affected by one or the other, or by both; but she had now more energy than she had some time ago, and her colour was certainly less. From what he had seen of the organic changes that take place he could understand why there should be an arrest, very probably a complete and permanent arrest of the disorder. We knew the depositions that took place into one or both of these organs—more probably into both at the same time—and indicating a special and peculiar tendency of the organs when affected; some would call these deposits scrofulous, some malignant; we knew also the natural course these depositions underwent, softening and being converted into a puriform mass, they became quiescent, having been attended by inflammation during the process; and we could therefore very well imagine that while this limited deposit, not such as to interfere with the whole of the functional part of the organ, was undergoing a change, there would be a very considerable amount of inflammatory action and disturbed function around, which would produce great general distress and discoloration. But that on the softening process ceasing, and the part becoming quiescent, the function of the kidneys would be restored, and the health restored with it. This was, of course, reasoning from what we knew of the disease of other organs. But there were other sources of disputation which were perhaps more avoidable, and perhaps less legitimate. He had cases sent to him of discoloration of the skin, which did not approach to anything like the discoloration attending this lesion. It had, again, been more than once declared that these organs were diseased, and extensively so, when there had been no disease at all. Several supra-renal capsules had been

sent to him as samples of diseased organs, and they were in a state of perfect health. Such a case had been published to the world as a remarkable instance of universal disease of both organs, without any discoloration of the skin. It appeared to him that the amount of discoloration had, in the instances he had met with, been connected with the softening process or liquefaction of the contents of the organs; so that where there had been great intensity of discoloration, there had also been great liquefaction.

Dr. HARLEY said, the profession was greatly indebted to Dr. Addison for having called attention to a peculiar, important, and hitherto unnoticed disease. He had listened with pleasure to the notes of the case, but could not help feeling somewhat surprised at the conclusions of the author. He did not think there was at present sufficient evidence to justify the dogmatic statement that bronzing of the skin was pathognomonic of supra-renal capsular disease. No doubt many cases had been reported in home and foreign journals, in which a peculiar discoloration of the skin was found associated with disease in the supra-renal capsules; but that was not sufficient to establish the relation of cause and effect. Indeed, during the last year a considerable amount of evidence had been brought forward on the opposite side of the question—cases having been reported in which extensive disease of the supra-renal capsules was unconnected with any discoloration. He referred to the cases reported by Ogle, Virchow, Davies, Fredrich, Brittan, Kolb, etc. On the other hand, several cases of bronzed skin had been noticed, unassociated with any textural change in the supra-renal bodies, as that brought before the Pathological Society last summer by Mr. Hutchinson. He did not believe bronzed skin to be the result of any particular disease attacking the glands; for Dr. Addison had just shown that the discoloration accompanied tubercle, cancer, and abscess of the capsules. It had been said that the bronzing of the skin was the result of the suppression of the supra-renal capsular function; but how could that be the case when the discoloration was found in cases where the capsules were perfectly healthy, and was absent where the glands were too extensively diseased to perform their function? In discussing a subject like the present, he considered it better to take a general view of the chromatogenous function of the skin than confine attention to individual cases; and he reviewed in some detail the several causes regulating the deposition of pigment in the skin of man and of the lower animals. Many physiological proofs were deduced to show that the chromatogenous function of the skin was entirely independent of the supra-renal capsular function.

Mr. HUTCHINSON remarked, respecting the greater part of Dr. Harley's observations, that they were admitted by every one. No one had ever doubted the influence of the sun in browning the skin, and no one had ever dreamt of asserting that disorders of the supra-renal capsules were the only causes of increased deposit of pigment. There were, undoubtedly, many others. With due discrimination, however, there could be but little difficulty on the part of the trained observer in speaking confidently as to the particular form of bronzing which did really result from diseased capsules. He would assert boldly that there was as good evidence in support of the belief that such bronzing as the patient before the Society exhibited was really dependent upon disease of the capsules, as could be adduced in favour of the connection of any of our best acknowledged symptoms with their respective lesions. The pathognomonic indications of change in colour of the skin must be ascertained in each instance by noticing its intensity, the parts on which it commenced, its slowness of progress, and its concomitant symptoms. Above all, the existence of black stains on the mucous linings of the lips was of importance. To say that bronzing was a symptom which, carelessly observed, was very liable to lead to error, was to allege nothing whatever against its value when cautiously appreciated, or to derogate one iota from the worth of Dr. Addison's discovery. In adducing cases of the converse kind, those, namely, in which the supra-renal capsules were found disorganized, whilst no bronzing of the surface existed, Dr. Harley had also neglected to avoid a very palpable source of error. All such cases were examples of *recent* disease of the organs. Now, as bronzing required for its production a very prolonged interval, probably not much less

than a year, it could not reasonably be expected in such cases. The patients died before it had time to appear. No single instance had, as far as he was aware, yet been recorded in which the disease of the capsules was such as to make it probable that it had been long present, or in which the constitutional symptoms had existed for more than a few months before death, where the bronzing had not been noticed in greater or less degree.

Dr. HARLEY did not deny the importance of the functions the supra-renal capsules had to perform; in fact, no organ of the body could be considered unnecessary. Still, it could not be said that they were indispensable to life, for patients often lived for some time after the arrest of those functions. In the case of Professor Walshe's patient, which he had recently brought before the Pathological Society, the medullary substance of both organs was totally replaced by tubercle, and even the cortical substance had almost entirely disappeared, for only here and there could traces of the columnar cell masses be detected. No doubt in that case the function of the capsules had been temporarily performed by some other organ. The capsules could certainly be removed from the lower animals without the destruction of life; he had now alive and well a rat from which he extirpated the supra-renal bodies and spleen six months ago. Brown-Séquard, in a paper recently read to the French Academy, had stated that the reason why M. Philipeaux's and his (Dr. Harley's) animals lived after the removal of the capsules was that they were albinoes; but this was not the case, for he had kept alive for several months animals that were not albinoes. A piebald rat which he once had in his possession became quite fat and healthy after the removal of both supra-renal capsules, but died subsequently from the effects of the removal of the spleen. In cases where death had followed the removal of the capsules, it might in the majority of cases be traced to the injury done to the solar plexus. It might be taken for granted, that the more intimate the connection between the capsules and the ganglions, the more fatal were the operations; and the further removed the capsules were from the ganglions the more successful was the result; for instance, the removal of the capsules from the guinea-pig was more fatal than from the dog, from the dog than from the cat, and from the cat than from the rat; and in the same species of animal the removal of the right capsule was more fatal than the removal of the left, from the same cause; the right capsule being as a general rule very much nearer to the solar plexus than the left. At present, however, there seemed to be no physiological evidence to show that either of the supra-renal capsules was absolutely essential to life, or had any direct connection with the chromatogenous function of the skin.

Dr. ADDISON said he hoped Dr. Harley would not continue to entertain the notion, that he attached extraordinary importance to the discoloration of the skin. The term "bronzed skin" did not originate with him. All he ventured to do was to describe the diseased condition that he met with; and the earliest indication to the eye was this discoloration of the skin. He believed the disease might occur, and had occurred, without any discoloration of the skin. A case occurred at Guy's Hospital, where all the symptoms were those indicative of the disease, and a physician there expressed his astonishment that he should not have recognized it, notwithstanding the absence of the discoloration of the skin; and after death the lesion of the capsules was found. He should like this simple fact explained to him by the gentleman who spoke last. He saw a patient who presented this peculiar discoloration of the skin; he offered no explanation as to whence, or how, or why it came. He observed associated with that discoloration a certain train and combination of general symptoms —a pearly eye, a feeble pulse, a disposition of strongly-marked anæmia, and a few other symptoms less constant and less urgent; and when he met with that combination he said, "There is a case in which you will find disorganization of the supra-renal capsules." The body was examined; no other organs were found diseased, but these organs were found in a state of universal suppuration. He did not profess to explain this; he knew no more about it than other people: but he believed, when the disease did occur in these organs, it led to these consequences and to inevitable death.—*Med. Times and Gaz.*, Feb. 20, 1858.

21. *Treatment of Inflammatory Diseases of the Respiratory Organs.*—Dr. Semple read before the Medical Society of London (Jan. 16th, 1858) a paper on this subject. He commenced by observing that the treatment of pneumonia was formerly supposed to consist almost solely and essentially in the abstraction of blood from the arm; but that in the present day, not only in this, but in other inflammatory diseases, the use of the lancet was but seldom resorted to, and by many practitioners it was abandoned altogether. It became a question whether this great alteration in treatment was due to the varying fashion of the day, or to the fact that disease had, in fact, altered its type, and therefore required very different treatment from that formerly adopted. He (Dr. Semple) was inclined to believe that disease had really altered its type, for he and others had, at the commencement of their professional career, bled patients very constantly, and certainly with good results, but at present the operation of venesection was not so much required. He had been for the last three years connected with the Northern Dispensary, where all the usual forms of disease presented themselves to his notice, and he had recommended bleeding only once during the whole of that period in that institution. The fact appeared to be, that the sthenic inflammatory diseases were dying out amongst us, and that asthenic complaints were taking their place. The cholera which visited this country in 1832, was certainly a disease of depression, and this was immediately followed by the influenza, a disease of the same depressing class, and, like it, requiring a tonic plan of treatment. Since the date referred to, neuralgia, also a disease of depression, had become almost epidemic; carbuncles and carbuncular boils were at present decidedly so; and Bright's disease, the disease of the supra-renal capsules giving rise to the bronzed skin, and the disorders classed under the head of fatty degeneration, were all much more prevalent than formerly, even if we do not admit them to be new diseases. In fact, it now became a question whether bleeding should ever be practised at all, and he (Dr. Semple) was as cautious in ordering a patient to be bled as a surgeon would be in deciding upon the amputation of a limb. Nevertheless, although the cases which were met with in practice required in general the adoption of tonic and stimulating treatment, it was by no means proved that all forms of disease were characterized by depression; for cases of a sthenic type still presented themselves, and demanded the application of antiphlogistic measures. The remarks made upon the treatment of inflammatory diseases in general were particularly applicable to those of the respiratory organs, which are essential to life, and the inflammations of which require the most prompt and judicial medication; still it was impossible that any stereotyped rules could be laid down for the treatment of these affections, which may present the most opposite therapeutical indications.

The author then related the case of a lady in whom the treatment by bleeding, calomel, and tartrate of antimony was adopted for an acute inflammation of the larynx and trachea, extending to the bronchial tubes, substance of the lungs, and pleuræ. This treatment not having at first produced a well-marked effect, the antiphlogistic plan was changed for a stimulating one, and carbonate of ammonia and brandy were employed while the acute symptoms still continued. The result was, that the patient became decidedly worse, and appeared to be on the point of death by suffocation; but on again changing the plan, and resorting to bleeding, low diet, and tartrate of antimony, the disease gradually subsided, and the patient, who is now alive and well, was restored to perfect health, without any trace whatever of the previous illness.

Dr. Semple wished that it should be understood that he had no dogmatic views to offer upon the treatment of the inflammatory diseases of the respiratory organs. He could not advocate indiscriminately large bleedings, profuse mercurialization, and repeated doses of tartar-emetic; nor, on the other hand, could he approve of the universal adoption of the plan of stimulating such cases by brandy and carbonate of ammonia; and it was difficult to determine which would be the greater error of the two. He believed that many cases of pure sthenic inflammation still presented themselves in practice, although they were by no means so common as they formerly were; and in such instances the abstraction of blood, and the administration of mercury, of the alkalies

and tartar-emetic, will effect a cure. But there are in the present day a great number of epidemic, contagious, and diathetic forms of disease, which are, it is true, accompanied by inflammation, but of a low or asthenic character, and these require tonics, alteratives, and stimulants. Undue depletion ought to be avoided in persons who are the subjects of the gouty, the venereal, or the scrofulous diatheses; and whenever any of these affections co-exist with, or precede inflammation, the disease ought not to be considered as of a sthenic character, and the cure should be sought rather by correcting the prevailing morbid taint in the system than in indiscriminate depletion; and some of these constitutional maladies, especially scrofula, required cod-liver oil, iodine, iron, meat, wine, and beer.

The paper concluded with a sketch of the treatment of pneumonia as it presented itself in children, in vigorous adults, in the inhabitants of towns and cities, in persons labouring under fever, in its typhoid form, and in its complication with tubercular phthisis, in each of which cases, although the name of the disease was the same, yet the treatment required was very different, owing to the peculiar features which the malady assumed.

In the discussion which ensued, Dr. Routh, Dr. Camps, Dr. Webster, Dr. Cotton, Dr. Chowne, and Dr. Stocker took part. The debate elicited nothing very striking or novel; but it was remarkable that none of the speakers spoke in favour of the stimulating plan of treatment in inflammatory diseases of the chest.

Dr. Semple, in reply, feared that the nature of his remarks had been misunderstood by some of the speakers. So far from advocating the indiscriminate use of bloodletting, his paper had just the contrary tendency; and he believed that a medical man was bound to dispossess himself of all dogmatic opinions, and to treat his patients in such a manner as would most rapidly restore them to health. This could only be done by studying the peculiarities of every case, and paying strict attention to all modifying circumstances. However valuable statistics might be, he thought that they did not throw much light upon practice; and as to the number of cases which, it was said, recovered from pneumonia in the Vienna Hospital without any treatment at all, it was not stated what the peculiar forms of the disease were, or what were their complications, and the results might be quoted to support any doctrine whatever. He thought that the subject of the modern treatment of the inflammatory diseases of the respiratory organs, and of inflammatory diseases generally, was a very proper one for debate in medical societies; and as the arguments were not yet by any means exhausted, he hoped that others would continue the discussion upon some future occasion.

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22. *Treatment of Pleuro-Pneumonia.*—Dr. S. O. Habershon, Ass. Phys. to Guy's Hospital, draws the following inferences from certain cases he has observed and recorded.

1. That active mercurial, antimonial and opiate medicines are not necessary in many cases of pneumonia, even without depression, and when seen at an early stage.

2. That convalescence rapidly takes place in many instances under the saline plan of treatment, as bicarbonate of potash, as shown by Dr. Hughes Bennett and others.

3. That while some cases of pleuro-pneumonia, especially in young subjects, as several of the cases related were, may recover, even without any medical treatment, that salines appear to be of some value, perhaps by increasing the action of the secreting organs, modifying the character of the blood, and hastening the absorption of the effused product.

4. That in other instances, mercury appears to be of considerable value, as in cases where there is considerable pleuritic effusion.

5. That, in some, especially where there is much bronchitis, with great febrile excitement, without prostration or struma, antimony also is of much service; but that the indiscriminate use of calomel and antimony in very many cases retards convalescence, interferes with the return to healthy nutritive action, and should be avoided.

6. That opium alone, or as its alkaloid morphia, is also a valuable remedy in pneumonia, either combined with ipecacuanha, as in Dover's powder, or with antimony, when that is admissible; that it acts possibly by diminishing the frequency of the respiratory act, by its action on the nervous system, increasing diaphoresis, when combined as just mentioned; quieting the nervous system, relieving pain, and diminishing the excitability of the nervous system, and diminishing the excitability of the bronchial tubes.

7. That while, in some cases, general or local bleeding may be called for, such are exceptional cases now; and that many instances, on the contrary, require the liberal administration of nourishing diet, and in some cases stimulants.

8. That each case must be judged by its own peculiarities; and whilst many, from their age and other circumstances, will probably recover under most varied treatment, other cases, of which I might adduce many instances, almost invariably die, as those arising in very intemperate habits, or where it follows in the course of pyæmia and allied conditions. We have thus sought by these instances to show that, whilst calomel and antimony are sometimes of value, much more frequently they may be dispensed with altogether in cases of pleuro-pneumonia, rapidly advancing to consolidation of the lung, where a comparatively short time ago these remedies would have been prescribed.—*Med. Times and Gaz.*, Nov. 28, 1857.

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23. *Hydropneumothorax treated by Paracentesis Thoracis and Injections of Iodine.*—Three cases of this under the care of Prof. Trousseau are recorded in *L'Union Médicale* (Oct. 31, and Nov. 10, 1857), one of which proved fatal, and the other two resulted favourably. In the former, death did not ensue till six weeks after the operation; the disease for which it was performed having been complicated with phthisis, which was not positively diagnosed during life, it would not be just to impute the fatal result to the operation.

The most completely successful of the three cases was the second, of which the following is an outline: A man was admitted into the hospital, November, 12, 1856, six weeks after having suffered serious injury by being squeezed between two carts. He was still in great pain, the right side of the thorax presented a considerable elevation; there was dulness posteriorly as far as the spine of the scapula, and the respiratory murmur was inaudible at the base of the chest; in the infra-spinous fossa there was a blowing sound, egophony, metallic tinkling, and hippocratic succussion caused a splashing which was audible at a small distance from the thorax. In the subclavicular space the percussion sound was abnormally clear. The abdominal organs were forced downwards, the liver projecting considerably below the false ribs. There was frequent cough, with expectoration, which was at times bloody and rusty, at others frothy and colourless; respiration was quick and painful, the pulse small, about 120. The patient's strength was good. M. Trousseau diagnosed hydropneumothorax, and on introducing a trocar between the seventh and eighth intercostal space, 5½ litres (nearly twelve pints) of an odourless purulent fluid were evacuated; and having entirely emptied the pleura, 258 grammes of an iodized solution were injected, which was partly removed after a few minutes, and the wound shut up. No inconvenient symptom followed; the wound healed up in the course of eight weeks, during which it continued to discharge a purulent serosity. The chest by this time had collapsed on the right side; the vesicular murmur was everywhere restored, but feeble, and mixed with mucous rales in some points posteriorly; in front it was pure and audible, even on the level of the puncture. The patient left towards the end of January, and soon after was well enough to return to his employment as carman.

The third case occurred in a man, aged thirty-five years, as the result of pleurisy of the left side. The operation was performed as in the last case, followed by iodized injections,[1] repeated no less than twenty-four times at different

[1] Fifty grammes of tincture of iodine, five grammes of iodide of potassium, with one hundred to one hundred and twenty grammes of water.

intervals. The patient did well; the left side of the chest fell in, and the percussion sound of the part affected was restored almost to the normal condition; but five months after the operation the orifice made by the trocar still continued to discharge a small quantity of pus, and it was feared that there was tubercular deposit in the lung, to combat which the hypophosphite of lime was prescribed according to the formula of M. Churchill.

In the remarks that conclude the article, the propriety of performing the operation is dwelt upon, and the iodized injections are spoken of as the only remedy by which we may hope to obtain a cure of purulent effusions, and of hydropneumothorax even, without serious danger.—*B. and F. Med.-Chirurg. Rev.*, Jan., 1858.

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24. *Specific Treatment of Consumption by Salts of Phosphorus.*—Dr. J. F. Churchill, in a memoir presented to the Imperial Academy of Medicine, claims to have discovered that phosphorus, in certain combinations, is a specific remedy for phthisis. A few months previously, Dr. C. had proposed its employment at the hospital for consumption at Brompton, but having declined to make known its composition, the Medical Board very properly refused to make trial of it. As the remedy has now been made known, and its efficacy so confidently vaunted, Dr. R. P. Cotton, Physician to the Hospital, &c., at Brompton, thought it his duty to give it a fair trial, and he has published (*Med. Times and Gaz.*, Feb. 13, 1858), the results.

Dr. Churchill is of opinion that the direct cause of tuberculosis is the decrease in the system of the normal proportion of phosphorus in an oxygenizable state, and that the natural remedy should be sought in some compound of phosphorus, at the lowest possible degree of oxidation. The hypophosphites appeared to him to offer the nearest approach to such a quality; and of these he selected the hypophosphites of soda and of lime, as being the most soluble and "assimilable." "They produce," he observes (p. 15), "a manifest increase of nervous power, sometimes even from the first day of their administration, together with an unusual feeling of comfort and strength. At the same time the nervous symptoms, if there have been any, disappear, as well as the functional derangement, such as weight, etc., of the intestinal mucous surface. The appetite increases, often in an extraordinary manner. The evacuations become regular, and more abundant; the perspirations, if they have existed, cease; sleep becomes calm and profound." He administered it to thirty-five consumptive patients, all of whom were either in the second or third stage of phthisis. Of these, "nine were completely cured, eleven experienced great melioration, fourteen died," and one was still under treatment.

Dr. Cotton's experience with this remedy he states "is based upon carefully made observations upon twenty of my own in-patients at the Hospital for Consumption. Copious notes were taken by Dr. Walker and Mr. Ford, the resident clinical assistants; and are open to the inspection of those who may be desirous of obtaining more information than I am able to offer in the present communication. Dr. Churchill's rules for administering it were carefully attended to; five grains dissolved in water, with the addition of a small quantity of syrup, being given three times a day. The cases consisted of nine males and eleven females, all of whom were adults. Three were in the first stage of consumption, five in the second, and twelve in the third. All were affected with the disease in its simple form, there being no other than the ordinary complications. The remedy was administered for a fortnight, notes being regularly taken; if, at the expiration of this period, no improvement was observable, it was discontinued; but, if the patients expressed themselves relieved, other medicines were prescribed, with the view of testing whether such relief was fairly attributable to 'specific' agency, or to other circumstances—such as improved diet, rest, etc., which should always be taken into account in estimating the effect of medicinal agents upon hospital patients.

"Of the three patients in the first stage of the disease, two were not perceptibly influenced by the hypophosphites, but afterwards improved considerably under tonic treatment, and cod-liver oil; the other considered himself much stronger, but before admission to the hospital he had been almost starved, so

that good diet, etc., may reasonably claim a fair share of the credit; and he left before other medicines could be tried.

"Of the five patients in the second stage of the disease, two were not in any way influenced by the hypophosphites, but subsequently expressed themselves as feeling 'much better' under tonic treatment with cod-liver oil; two slightly improved, but one of these afterwards advanced at a much more rapid rate under steel and oil, and the other seemed to get on quite as well under steel and quinine; the remaining one became much worse, from a gradual advance of the malady.

"Of the twelve patients in the last stage of the disease, one felt herself better under the hypophosphite, than under any other remedy; one improved greatly, but not more than under the subsequent use of other tonics; three improved slightly, but afterwards progressed much more rapidly under steel and cod-liver oil; two were not at all benefited, but found themselves 'much better' under a change of treatment; in two cases no effect was observed, and in spite of all treatment, the disease ran on: one of the patients became worse, but subsequently gained strength under the oil and quinine; the remaining two died.

"Thus, in only two instances could this remedy be said to act with any marked benefit, and in one of these its good effect was very equivocal, the patient, previous to admission, having been in an almost starving condition, and leaving the hospital before the comparative trial could be made with other medicines. In all the rest, it acted certainly in no way as a 'specific;' in most, it seemed to be inert; and the few cases which slightly improved during its administration, were evidently instances of the *post*, and not the *propter hoc*, since some advanced equally, and many of them more rapidly, under the subsequent use of steel or quinine, with cod-liver oil.

"It is very possible that the compound of phosphorus, proposed by Dr. Churchill, may, in some cases, have a tonic and beneficial influence; but to any 'specific' action upon tuberculosis, it seems to have no claim.

"In a foot-note to the tabular statement made by the above-named clinical assistants, I find the following remarks by Mr. Ford: 'As far as we can judge from these cases, it is obvious that the hypophosphites are of no therapeutic value, whatever, in the treatment of phthisis; indeed, they seem to be simply inert, doing neither good nor harm, except indirectly in the latter sense, by interfering with more positively beneficial modes of treatment.' This opinion is fully indorsed by Dr. Walker.

"The employment of phosphorus in the treatment of phthisis is by no means novel. For the last eight or nine years I have been in the habit of using a mixture consisting of the dilute phosphoric acid, with phosphate of iron; and at my suggestion, it has been inserted in our hospital Pharmacopœia. In many cases much good has attended, and I think I may say been produced by, its administration; but I attributed to it no *specific* action. I believe it is a simple tonic, adapted to certain depressed states of system.

"Phosphorus is a well known, and apparently necessary constituent, of all healthy nerve structure; and, in some conditions of low nervous vigour, its medicinal employment may be of very great service. We find that it enters largely into the composition of the most nutritive kinds of grain; and we may be quite sure that it is not placed there without a purpose.

"If phosphorus, then, be no specific for phthisis, but a simple tonic, acting usefully in certain lowered states of nervous energy, are we to seek further for specific remedies for this most intractable of all diseases? I believe the search will ever be futile. Until we know what *life* really is; until some new aid can be brought to bear upon its demonstration; until we find out in what consists that diminished power of vitalizing new products, as exhibited in the formation of tubercle, and other imperfectly organized substances from the blood, we must be content with treating consumption, as at present, with tonics and cod-liver oil."

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25. *Effect of Local Influences on Spasmodic Asthma.*—Dr. Hyde Salter read a paper on this subject before the Medical Society of London (Dec. 5th, 1857).

The purport of it was to show that, in a very large proportion of cases of asthma in which it has been fairly tried, change of locality effects an instantaneous cure, which is permanent as long as the asthmatic continues his residence in the place that has cured him. The author remarked that, although the subject of his paper was a single method of cure of a single disease, yet that the efficacy and completeness of the cure, and the painfulness and intractability of the complaint, vindicated it from unimportance; and, indeed, that in so distressing and unmanageable a disease, any remedy that offered even a small percentage of cures might be considered the greatest possible boon. The paper was illustrated by nearly thirty original cases, and the points that the author considered to be established were as follows:—

a. That residence in one locality will radically and permanently cure asthma resisting all treatment in another locality.

b. That the localities which are the most beneficial to the largest number of cases are large, populous and smoky cities.

c. That this effect of locality depends, probably, on the air.

d. That the air that would be imagined to be the worst for the general health is, as a rule, the best for asthma; thus the worst parts of cities are the best, and conversely.

e. That this is not always the case, the very reverse being sometimes so—a city air not being tolerated, and an open, pure air effecting a cure.

f. That there is no end of the apparent caprice of asthma in this respect, the most varying and opposite airs unaccountably curing.

g. That, consequently, it is impossible to predict what will be the effect of any given air, but that probably the most opposite to that in which the asthma seems worst will cure.

h. That some of these differences, determining the presence or cure of asthma, appear to be of the slightest possible kind, arbitrary, and inscrutable.

i. That the mere conditions of locality appear to be adequate to the production of asthma in a person whose disposition to it was never before suspected, and who probably never would have had it, had he not gone to such a locality.

k. That, consequently, probably many healthy persons who never have had asthma, and never may, would have been asthmatics if their lot had been cast in other localities.

l. That possibly there is no case of asthma that might not be cured if the right air could only be found.

m. That the disposition is not eradicated, but merely suspended, and immediately shows itself on a recurrence to the original injurious air.

n. That change of air, as change, is prejudicial.

o. That, from the caprice of asthma, the constancy of the result in any given case is often deranged.

The cases that were cited were very illustrative of these several positions, and some of them were of great interest. In reference to the frequency with which London air is beneficial to asthma, the author remarked that he was in the habit of putting to country asthmatics the two questions: "Have you ever been in London? have you ever had asthma there?" and that, if an affirmative answer was given to the first question, a negative one was pretty sure to be given to the second. In his own experience he had found hardly any exception to this rule.

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26. *On Œdema Glottidis.* By Professor Pitha.—In an interesting article of considerable extent, on the whole subject of tumefaction of the glottis (which applies rather to the epiglottis and the aryepiglottic folds than the true glottis), we find the following instance of acute œdema, assumed to have been brought on in a healthy person by an article of diet.

Madame Grabinger, a robust ruddy woman, aged thirty, on a hot summer's day felt poorly and faint immediately after her dinner, which she had enjoyed in perfect health. She lay down on the sofa and went to sleep quietly. After about half an hour the children observed that their mother breathed laboriously and noisily, so that they roused her. She awoke with difficulty; her face was distorted, pale, and swollen; the voice hoarse; the respiration became more

laborious; the patient complained in broken words of constriction of the throat, and a sense of suffocation. A few minutes later, Professor Pitha found the patient wringing her hands in a state of most distressing dyspnœa. The features pale and frightfully swelled, and the whole neck alarmingly swollen. The voice had entirely disappeared, and the patient implored assistance in the most painful manner, constantly pointing to the larynx. The Professor could obtain no clue from the children, but on looking round the room he perceived a plate with a few strawberries; on pointing to them interrogatively, the patient nodded violently, evidently gratified by his suspicion. He at once prescribed an emetic of tartrate of antimony, which put an end to the symptoms as speedily as they had supervened. After the first spoonful copious vomiting ensued, accompanied by a discharge of masses of mucus, upon which respiration at once became easy, and voice and speech returned. The tumefaction of the face and the other symptoms gradually disappeared, and on the following morning the patient was quite recovered. Professor Pitha analyzes the symptoms, and while he admits that the presence of œdema was not absolutely proved, he maintains that all rational signs of the affection showed it to be there.—*Brit. and For. Med.-Chirurg. Review*, Oct. 1857, from *Prager Vierteljahrsschrift Jahrgang* xiv., 1857.

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27. *Acute Rheumatism caused by large doses of Hydriodate of Potass.*—Dr. Charles Campbell extols (*Dublin Hosp. Gaz.*, Feb. 1, 1858), the efficacy of the hydriodate of potass in the treatment of acute rheumatism. He gives the article in large doses—ten grains every four hours.

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28. *Principles of Treatment in Chronic Rheumatism.*—Dr. Inman read an instructive paper on this subject, before the Liverpool Medical Society. He adverted to the frequency of the occurrence of chronic rheumatism, and the multiplicity of the plans of treatment employed for it; remarking that they all, however, possessed something in common. Difficulty as to diagnosis, and confusion as to treatment, he thought had arisen from the practice of classing all sorts of aching pains under one head, as rheumatic. The uneasy sensation experienced before the access of eruptive fevers, and during the course of malignant disease, or felt by those exposed to the action of mercury or lead, and by those suffering from gout, gonorrhœa, or syphilis, and in cases where it was evident that bile or urea was mixed with the blood, and by children affected with struma—had all been set down as rheumatic, though due to most varied causes. The term "chronic rheumatism," he believed strictly applicable to cases in which there is dull pain, usually coming on during the night, referred to the tendinous expansions of the muscles, the pulse not quickened, the skin warm, excepting over the seat of pain, where the temperature is usually low; the pain remitting about 4 P. M., and not recurring till some time during the night. There is usually no error of secretion, nothing visible at the seat of pain. The duration may be from one or two days, to six weeks. Deposits in the joints rarely take place; and that form which causes gradual contraction of joints, and crippling of limbs, is rare. The rheumatic pain is usually symmetrical; its chief seats those parts least protected by fat and integuments. Loss of motor power accompanies the pain, which is increased by action, and relieved by relaxation of the affected parts. Rheumatism is not occasioned by dry and intense cold, but by the more moderate degrees of cold, especially if the air be moist. The experience of Arctic navigators, and of the army before Sebastopol, as well as the comparative rarity of rheumatism among carmen, carters, and bricklayers, confirm this point. Firemen of ocean-going steamers appear particularly liable to it. Persons of feeble constitution and languid circulation are more obnoxious to it, than those with good circulation. It is not common in women, except at advanced ages. The vigorous action of the heart helps to remove the pain, as is evidenced by the improvement which generally occurs after dinner. In a case where there was great pain and stiffness in the arms, hands, and deltoid muscles, the immersion of the arms in very warm water removed the pain for the time. Many rheumatic patients feel quite well in a warm bath; though often worse after it, from increased sus-

ceptibility. The influence of temperature on the local circulation has much power over rheumatism. Patients take cold often through sitting near cold walls, &c. The cause of the pain is probably, primarily, the contraction of the pale muscular fibres of the skin, the stagnation of blood in their capillaries; the hot aching pain which succeeds, being due to reaction and dilatation of the vessels: the one efficient cause of rheumatic pain in general, being deficient flow of blood through the affected parts. With regard to treatment, the author thought that no satisfactory results could be ascribed to colchicum, in large or small doses. Warm baths are useful in some cases. Nitrate of potash had proved useful in the hands of some, but he thought the iodide of potassium had a stronger claim to efficiency. Guaiacum, aconite, opium, steel, and cod-liver oil, all prove useful in some cases; and the local application of heat by packing in wet sheets, blisters, sinapisms, heated irons, red flannel, and red merino, also. The indication appears to be, to restore the strength of the individual, and the vigour of his circulation. In the most troublesome form, pain in the plantar fascia, was removed by perfect rest and galvanism.—*Liverpool Medico-Chirurgical Journal*, July, 1857.

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29. *Perchloride of Iron in the Treatment of Erysipelas.*—The use of perchloride of iron in the treatment of erysipelas has lately been brought again into notice by the publication of a thesis by M. Louis Mathey, and by some observations made by M. Aran, physician of the Hôpital St. Antoine in Paris. M. Mathey relates ten cases of erysipelas treated with this medicine, and his conclusions are contained in the following remarks:—

The action of perchloride of iron on erysipelas is evident, and the course of the disease is modified a short time after its administration. In fact, on the second day, and sometimes even on the first, M. Mathey has seen the disease become limited and circumscribed, and its further progress arrested. As to the duration of the disease, the effect of the perchloride is still very remarkable: not only is the progress of the erysipelas sensibly modified from the first few hours which follow the administration of the medicine, but it is completely arrested; the radical cure of the disease is obtained in a very short time. It was observed that in ten rather severe cases of erysipelas treated by the internal use of perchloride of iron, three were cured in two days, three were cured in three days, two were cured in four days, one in five days, and one in seven days. It cannot therefore be denied that erysipelas is advantageously modified by the internal use of chloride of iron; that the cessation of the symptoms proper to erysipelas is sometimes very rapid after the administration of this medicine; that in a series of ten observations, made upon varied cases, this treatment never failed; that even where its efficacy may be doubted it has never given rise to any bad symptom; and that when administered in the dose of thirty drops to a healthy subject, it has never given rise to any painful sensation, and has never produced any notable functional disturbance.

M. Aran agrees with M. Mathey in never having observed any unfortunate result from the administration of the perchloride of iron in larger doses than those employed by M. Mathey—namely, thirty, fifty, sixty, and one hundred drops a day, in certain exceptional cases. But a wider and more extensive experience of the employment of the perchloride has shown him that there are particular circumstances which favour the action of the medicine. M. Aran believes that it would be vain to expect advantageous results from the administration of perchloride of iron in all cases of erysipelas. He is convinced that some cases of erysipelas will not yield to this remedy; as, for instance, the cases which occur in young, strong, and robust subjects of a sanguine temperament, and which are accompanied by a well-marked inflammatory action. On the other hand, the cases of erysipelas which are developed in feeble, delicate subjects, of a well-marked lymphatic or scrofulous temperament; in individuals already weakened by previous diseases; the cases especially which exhibit, with well-marked tendency to spread, the œdematous form; and in which, even with a marked acceleration of the pulse, the arterial throbs are weak and easily depressed, or when fever is completely wanting, as happens

sometimes in old persons; these cases are remarkably modified and often arrested in twenty-four, thirty-six, or forty-eight hours, by the administration of the perchloride. The erysipelas, which is still more atonic, and which supervenes in the course of serious diseases, around punctures, abrasions, or lacerations of the skin, at other times even without appreciable causes, are amenable to the perchloride of iron. Lastly, the cases which, even when they show themselves in strong and robust subjects, after having been reduced by various and appropriate treatment, still linger on and pass from one part to another, throwing out unexpectedly its eruptions in places where the disease appeared to have been long extinguished; such cases are often terminated in twenty-four hours by the perchloride of iron.

Another point connected with this subject is the propriety of administering the perchloride as a prophylactic. "There are certain epochs and years," says M. Mathey, "when cases of erysipelas of traumatic origin are multiplied to infinity, and show themselves in such great number, that the disease is truly epidemic. The application of a seton, a moxa, or a blister, is followed by erysipelatous inflammation: and, *à fortiori*, the great wounds united by sutures and bandages of diachylon are almost infallibly attacked with the disease. The surgeon who operates under these circumstances is pretty sure to see erysipelas among his patients. It would perhaps be proper to postpone the operation, but sometimes the case is urgent, and the surgeon would think himself fortunate and could act with more confidence if he could hope to put his patient beyond the reach of a troublesome complication; might we not, for the first few days which follow a delicate operation, and during which inflammation is to be feared, unite with soothing beverages some drops of perchloride of iron, because it is fully established that its use in moderate doses is not followed by any bad effect?"—*B. and F. Med.-Chirurg. Rev.*, Jan. 1858, from *Bull. Gén. de Thérap.*, July 15, 1857.

30. *Guarana in Chronic Diarrhœa.*—Dr. Herve, of Lavour, calls the attention of the profession to the employment of a substance which is in common use in South America, and particularly in Brazil, where cases of diarrhœa and dysentery present themselves in a very severe form. Those who inhabit that country know that every family has a little provision of guarana, and that as soon as any one is seized with diarrhœa or dysentery, a little of the substance is scraped and infused in a cup of boiling water, which is swallowed at once with or without sugar. Dr. Hervé, following the advice of Dr. Mialhe, has given it in infusion, in sugared milk, and it is then much more agreeable, and does not lose its special characters. For the last five or six years he has employed this medicine daily; it has never failed him in the most obstinate cases of idiopathic diarrhœa, and almost always it has ameliorated the condition of the patient even in the most serious symptomatic cases. The guarana or *paullinia* has been also employed in the treatment of headaches; and it has succeeded in some cases connected with gastric derangement, but it has failed in others.

The guarana, as a medicine, was first described by Cadet de Gassicourt, in 1817, from a fragment which had been brought to him from Brazil by an officer attached to the French embassy. On this specimen a ticket was fixed, importing that this substance was much employed in Brazil for cases of diarrhœa and dysentery. Towards the close of the year 1822, an inhabitant of the same country, M. Gomès, sent to Mérat a complete specimen; it was a mass presenting the form, colour, and volume of a sausage; there was joined to it a very rough bone, intended to act as a rasp, and which is always sold with the medicine. The learned botanist, Martius, afterwards occupied himself in discovering the plant which yielded the guarana, and he classed the climbing shrub which furnishes the guarana seeds among the Sapindaceæ, under the name of *Paullinia sorbilis*, in consequence of its employment as a drink. It may be used in the form of pastiles, syrup, pills, tincture, and pommade, as well as in powder, and in combination with chocolate.—*B. and F. Med.-Chirurg. Rev.*, Jan., 1858, from *Bull. Gén. de Thérap.*, May 15, 1857.

31. *Use of Kameela as an Anthelmintic.*—Mr. Arthur Leared relates (*Med. Times and Gaz.*, Dec. 19, 1857) a case of tape-worm in which most of the usual remedies were tried without effect, and in which the kameela (the powder from the capsules of the *Rottlera tinctoria*) was successfully used.

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32. *On the Employment of Tartarized Antimony in the Treatment of Chorea.* Dr. Adrien Marcotti, in a recent paper (*Bull. Gén. de Thérap.*, July 30, 1857), gives an account of two cases of epilepsy successfully treated by M. Bouley, at the Hôpital Neckar. In the first case, that of a young girl, the chorea had lasted a month, and was increasing in intensity. Large doses of the tartar emetic were given on two successive days, and thirty hours after the first administration of the medicine, all choreic movement disappeared. The patient was at first thrown into a considerable state of depression, but some moments of sleep sufficed to restore her, and the appetite was soon found to reappear. The muscular disorder disappeared, but a bad state of the constitution remained, and recourse was made to tonic medicines to improve her condition. The chorea reappeared under the influence of a fit of passion, but on the administration of the tartar emetic it again subsided. In the second case, the chorea was at first general, and almost immediately became partial. It resisted for six months and a half sulphurous baths, chalybeate tonics, and strychnine, and yielded in twenty-eight hours to the employment of tartar emetic.—*B. and F. Med.-Chirurg. Rev.*, Jan., 1858.

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33. *Lactate of Zinc in Epilepsy.*—Dr. Herpin's name is familiar to the medical profession on account of his urgent advocacy of the employment of oxide of zinc in the treatment of epilepsy. He now abandons this preparation entirely in favour of the lactate of zinc. The greater solubility and digestibility of the latter would *à priori* engage our sympathies in its favour. The following is one of the cases which have decided the author's preference, and deserves to be recorded on account of the success obtained in spite of the unfavourable prognosis which the case would have justified in the first instance.

Miss E., aged eleven and a half, consulted Dr. Herpin, February 1st, 1854. She was well made, intelligent, and pleasing. Her paternal grandfather had died epileptic at forty-nine years of age; her maternal grandfather at seventy-six, after being insane for six years, and in a state of melancholy for forty years. No predisposing or exciting cause was traceable in the patient, excepting perhaps the fright caused by a fire two months previous to the first attack. She enjoyed excellent health till six years of age, when she had typhoid fever, having on the right side a tendency to slight and evanescent deafness. Three months before the first seizure she was attacked with frequent headache, generally commencing in the morning, and lasting till evening. The headache ceased in December, 1853. The first fit occurred on August 15, 1853, the second on September 5, the third on September 26; six then followed at variable intervals, making altogether nine in less than five months; they always took place during the first hour of sleep, and the evening before the attack she was observed to be somewhat excited. The symptoms, which are detailed, leave no doubt as to the attacks having been those of genuine epilepsy. The oxide of zinc had been prescribed for the patient from September to the following July, but she was unable to bear the doses which Dr. Herpin thinks necessary in order to make a proper impression upon the patient. He was once able to reach a dose of six grammes (ninety grains) per week, but he was obliged to diminish it. Still the attacks ceased, from January the 8th to July the 18th; but a return on that day, brought on by a tepid bath, induced M. Herpin to have recourse to the lactate of zinc, which he gave for above six months, during which time the patient swallowed 306 grammes (4600 grains). The tolerance of the remedy was complete, and when she left off taking it, she was in perfect health. There was one recurrence of epilepsy two months after commencing the lactate. Three years have since elapsed, and the lady's health continues sound.—*B. and F. Med.-Chirurg. Rev.*, Jan., 1858, from *L'Union Méd.*, No. 121, 1857.

34. *Therapeutic Action of Chlorate of Potash, with a New Mode of Administering it.*—Dr. Dethan considers that chlorate of potash is a powerful sialagogue, and that its elective action on the bucco-pharyngeal mucous membrane is well marked. To this physiological action is added a very remarkable and valuable success in pathology; its rapid and incontestable effects in mercurial salivation, by checking the formidable mercurial affection, have permitted practitioners to continue the mercury without fear, and thus to contend without remission against the constitutional infection. As an especial and incontestable remedy in ulcero-membranous stomatitis, this medicine need not, according to the physicians of the Hôpital Sainte-Eugénie, be swallowed; its topical application is sufficient, and in a short time the mucous membrane recovers its normal qualities and functions. Dr. Dethan concludes that the chlorate of potash, administered under a special form, which would permit the local action to be exercised slowly and certainly, although leaving the medicine to be carried into the stomach in a state of solution with the mixed liquids of the salivary, buccal, and pharyngeal glands, would be the mode of administration which would combine all indications and all opinions. He therefore suggests the use of the remedy in the form of pastiles, so that the patient may have at hand a remedy against the injurious effects of a mercurial treatment which he may be undergoing. The experiments of Dr. Ricord, and the publications of M. A. Fournier, testify incontestably in favour of this successful simultaneous medication. In certain forms of angina attended with fibrinous exudations, it prevents the intimate adherence of the false membranes to the mucous membrane, and facilitates their expulsion, and assists the action of emetics. In this affection the topical action of the chlorate, favoured by the bruising between the teeth, the natural solution in the liquids of the mouth, and its penetration into all the points interested, will be certainly efficacious. In debilitating diseases, such as diphtheritis, and gangrene of the mouth, the child will find an agreeable and reparative kind of food, together with the most appropriate remedy hitherto discovered, against these diseases.—*B. and F. Med.-Chirurg. Rev.*, Jan. 1858, from *L'Union Méd.*, June 4, 1851.

35. *Movable Kidneys.*—"The knowledge," says Prof. Oppolzer (*Wien Wochenschrift*, No. 43, 1856, and *Med. Times and Gaz.*, No. 362), "of the possibility of the existence of this affection is of importance to the practitioner, as, when unaware of it, he may suppose the appearances observed to result from various other causes, and submit the patient to an injurious course of treatment, or it may give rise to unnecessary alarm upon his part. The abnormal movability usually affects but one kidney, and especially the right one; but the author has met with cases in which it was observable in both, and that in a remarkable degree. In all the cases he had the opportunity of examining, the patients dying of some other disease, the kidneys were found healthy; but in these cases there has been observable a deficiency in the cushion of fat, or an extension of the renal vessels. In some cases, the practitioner's attention has been drawn to the abnormality by the patient observing a tumour on one or both sides of the abdomen, which only became perceptible while standing, or lying on one or the other side, disappearing again during the horizontal posture. Generally speaking, however, it is first discovered by careful exploration, when, beneath the relaxed, painless, and not very thick abdominal parietes, a largeish, rounded tumour is perceived, deep under the liver or stomach. The inner concave side can only be felt in very thin persons, and the upper end is only accessible in some. The tumour can be easily pushed upwards, and then may suddenly disappear; but it cannot be pressed against the spinal column, or downwards below the *crista ilii*, without great pain being produced. To very firm pressure, made in any direction, the tumour is sensible; and the patient spontaneously complains of a sense of pressure and dragging, especially when standing, performing active movements, during defecation, &c. In the cases seen by the author, the condition has been normal."

The affection is usually congenital, as is shown by the lengthened condition of the vessels. Rapid emaciation occurring in persons formerly fat, concussion of the body, as in rough travelling, constipation, &c., may probably con-

tribute to its production. In fat persons the diagnosis may be impossible, but it is not difficult in those who are thin, as the form of the swelling can be traced, while the tumour can be pushed into the lumbar region, and there felt. The pain which it not unfrequently gives rise to, cannot be mistaken for neuralgia, colic, or rheumatism, if the practitioner will only make an exact exploration; while the tumour, resulting from a collection of feces, assumes another form, and does not appear in, or disappear from, the lumbar region, in consequence of pressure. It may also be distinguished from a movable spleen, as the latter lies in front of the intestines, under the parietes, and gives rise to dulness on percussion. It can only be confounded with cancerous and tubercular masses, when these are movable, and resemble the kidney in form. Treatment of this affection by bandages and the like, is of no avail; and the removal of it, when present, must be chiefly sought from the horizontal posture. Confinement of the bowels, and the consequent straining, must be avoided. It is, however, of great importance to tranquillize the mind of the patient as to the nature of the affection, and to prevent injurious measures being adopted: and hence the value of a correct diagnosis.

Mr. Adams was requested many years ago to examine the body of an old lady who was said to have "slipped her kidney." The right organ could be readily felt beneath the integuments in the lumbar region, and above the crest of the ilium. The only peculiarity revealed by a *post-mortem* examination was that the right kidney appeared to be bound down more loosely than usual. The patient, from having been very corpulent, had been much reduced in size. The condition of the kidney had nothing to do with the cause of death.

Dr. W. F. Wade states (*Midland Quart. Journ. Med. Sci.*, Jan. 1858), that he has had under his care, during the past year, a female patient, whose right kidney is the subject of this curious abnormality. The symptoms and history of the case entirely confirm Professor Oppolzer's remarks.

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36. *Functional Paralysis.*—Dr. Handfield Jones mentioned to the Harveian Society, of London (Jan. 21, 1858), the particulars of two cases of what he would be disposed to call "functional paralysis." The first was that of a girl, aged 19, who, having been unwell for three weeks, was suddenly seized with paralysis of the extremities, loss of consciousness, etc., which only lasted, however, a short time, and from which she recovered, and was convalescent in three weeks. The second, that of a boy, aged 17, affected with slight sickness, impaired memory, and inability to hold objects in the hand for any time together. In both cases, tonics were successfully administered; in the first case, cod-liver oil and strychnia, and in the second, a preparation of iron. Dr. Jones considered that in cases of this kind, the paralytic condition depended on an impaired or weakened state of the nervous centres, for which tonics were the appropriate remedies.—*Med. Times and Gaz.*, Feb. 13, 1858.

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37. *The Doctrine of Elimination, as propounded by recent Authors.*—Dr. Thomas Inman has published (*Liverpool Medico-Chirurgical Journal*, July, 1857), a very interesting paper on this subject, in which he inquires: 1st. What the doctrine of elimination is. 2d. The arguments in its favour. 3d. The plan of treatment it leads to. And he endeavours to show—

"1. That the processes by which poisons are expelled from the body are passive, rather than active.

"2. That evacuations, emanations, or eliminations, are not to be considered as 'salutary efforts of nature to cure,' but as symptoms of the normal nutrition being modified by a new force.

"3. That it is dangerous in diseases of a humoral origin, to act upon an eliminant plan of treatment principally.

"4. That the mode of treating diseases, depending on the presence of poison, is to enable the system in general, or any organ in particular, to resist its action, or tolerate its presence.

"5. That anything which depresses the vital powers, makes an individual more susceptible of foreign influences.

"It is not simply a pure condition of the blood that is necessary to health;

for a man may have the most healthy blood possible, and yet die of cold; while those whose blood is vitiated by tuberculosis, cancer, the paludal or gouty poison, may appear to enjoy perfect health, for a lengthened period, if not for the ordinary duration of life. No medicine, therefore, whose sole aim is to purify the blood, and no plan of treatment simply eliminative, can be expected to have more than temporary, or accidental success.

"There is, however, one plan for the elimination of all poisons, with which we feel bound to concur. It is that which places the patient in the midst of pure air and lovely scenery; which takes him from the turmoil and wearing activity of business, and gives him mental repose; which supplies him with nutritious diet, and abundance of the finest water; which procures sound rest at night, without any other opiate than healthful exercise; and which does not scour out the bowels by a daily purge.

"In this way, we believe, health may be regained, and poison be expelled; for there is in every living being a necessity for a constant renovation; old materials are daily being replaced by new; and when the increments are all healthy, and all old materials are being expelled, it is a necessary consequence that the body should have as sound a constitution as it is possible to attain."

SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

38. *After-Treatment of Surgical Operations.*—Dr. Broadbent, in a paper read before the Liverpool Medical Society, session 1855–56, referred to the object sought—that of union by the first intention. He believed one most common obstacle to this union to be the occurrence of hemorrhage, one or two hours after the operation; not to such an extent as to require the removal of the dressings, but sufficiently to form a coagulum of such a size as to seriously interfere with the union of the wound—acting, in fact, as a foreign body. The cause of this appeared to be, that in amputations, &c., when the surfaces were brought together immediately after the completion of the operation, the vessels were tied while the patient was still suffering from the shock of the operation, or it might be, was somewhat depressed by the after-effect of chloroform, whilst the more minute vessels were prevented from oozing, by their exposure to the air, and that when reaction took place, the hemorrhage came on. The author thought that those cases in which this occurred to such an extent as to necessitate the re-opening of the wound, usually terminate more favourably than others. He therefore advocated the plan of postponing the dressing until all oozing had ceased, and the cut surfaces had glazed over. The unnecessary removal of dressings, he believed to be another frequent cause of non-union. He thought that the sutures having been removed, the bandages, &c., should remain untouched till the third or fourth day, and should then be carefully cut off. The inability of the patient to maintain the required position, acted in the same way, and to obviate this, it was suggested that the patient should, before the operation, be habituated to the position in which he would have to lie after it. In the maintenance of the position of the parts, by means of pressure, the author believed that small air-cushions might be advantageously used, instead of pads of lint. —*Liverpool Medico-Chirurgical Journal*, July, 1857.

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39. *Causes of the Pneumonia which supervenes upon Laryngotomy.* By Prof. Schuh.—All surgeons of experience are aware that pneumonia is sometimes observed after the performance of laryngotomy or tracheotomy; but observers are by no means agreed upon the causes of this. Most persons, however, seem of opinion that the operation itself does not bear any direct causal relation to this occurrence. Professor Schuh entirely differs from them, and the performance of a very large number of operations upon the air-passages, during his twenty-three years' attendance at the Vienna Hospital, enables him to speak

with authority upon the subject. Although a great advocate for these operations under a variety of circumstances, he is convinced that the altered position and amount of the column of air that is admitted into the lungs is not unfrequently the sole cause of the supervening pneumonia. The following are the grounds for this opinion:—

1. The air, after the operation, enters the lungs by a shorter passage, and by one that is straight in place of being curved, as before; and it does not pass through an aperture which is alternately widened and contracted, as is the case with the *rima glottidis*. The column of air, too, which passes through the canula is larger than that which traverses the glottis, for if a smaller canula were employed, it would be liable to dangerous obstruction. We have thus two important changes in the mechanical conditions of respiration; and the lung becomes exposed to the pressure and impulse of a larger column of air, arriving more rapidly by a shorter passage. This, so tender and vascular an organ will not always support, and inflammation may be easily excited, just as it may when, in the operation of paracentesis thoracis, the fluid is too rapidly drawn off, and the lung is too suddenly exposed to the pressure of the air. 2. Experience confirms what *à priori* might have been expected. Any one who has very frequently performed the operation, must have met with cases in which the patient has complained of the admission of too large a quantity of air, and has only felt at ease when the opening of the canula has been diminished a third or a half by sticking-plaster. If such an indication of an intelligent and observant patient be neglected, pneumonia will follow. 3. The author has lost several patients in whom, at the time of its performance, no signs of pneumonia could be detected, and who seemed to be going on very well to the tenth or even twenty-first day. Not only did no other cause for the development of the pneumonia exist, but this was also always found on the right side—this being on account of the greater width and shortness of the right bronchus more exposed to the impulse of the air. The disease does not come on actively, but is indicated by some acceleration of respiration and slight fever. Physical examination, however, shows that very considerable infiltration has taken place; and the neglecting to institute this may be a cause that many pneumonias have been overlooked. 4. Cases of cut-throat, in which the larynx is wholly or partially divided, also strikingly exhibit the danger of an opening into the air-passages, such patients not unfrequently perishing in a few days of pneumonia, this always commencing on the right side, and in even fatal cases being usually confined to that side. It may also spring up in smaller wounds of this part, if these be not kept carefully closed either by sutures or suitable dressings and bandages.

To the question, whether pneumonia after laryngotomy can be prevented, the answer is, that it can in many cases, but not in all. For this purpose no wider canula should be employed than is necessary to maintain uninterrupted respiration; and as soon as the patient can breathe freely enough through the mouth, and can both breathe and speak when its orifice is closed, it should be changed for a smaller one, or its opening should be partly closed by plaster. When the breathing continues perfectly easy, the canula being stopped, before this is entirely removed it should be allowed to remain in, completely stopped, during twenty-four hours, care being taken that it should not project inwardly, so as to narrow the normal passage for the air. The temperature of the room should never be allowed to sink below 66° Fahr.

It is often exceedingly difficult to determine the time when the canula should be finally removed. After such removal, the patient may continue to breathe quite easy for from two to eight days, when the difficulty gradually returns, until it becomes as bad as ever. If even a couple of days have passed, the reintroduction of the canula can seldom be accomplished, and then only by first passing through the canula a cônical obturator, which can better overcome the elasticity of the edges of the cartilage. The longer the canula has remained prior to removal, the more readily may it be re-introduced. The recurrence of dyspnœa is especially to be apprehended when we have reason to suspect ulcer of or around the rima, open abscesses, and sinuses beneath the mucous membrane. Tumefaction rapidly diminishes, and the normal permeability is soon

re-established; but on the admission of the stream of air to the diseased part by the withdrawal of the canula, the former difficulties may soon be reproduced. Hence, when the diagnosis can be established, the canula in such cases should be retained during several weeks, in order to give the surfaces time for healing. According to Professor Schuh's experience, pneumonia never comes on after the first twenty-one days are passed, and the canula may then be worn for months or years without injury. On the other hand, the Professor has lost cases by removing the canula too late, pneumonia unexpectedly appearing. The sensibility of the lung to the unusual arrival of air, is especially great when the difficulty of breathing that has given rise to the operation has been of long duration, and the organ has become enfeebled by venous congestion and a diminution of the contractile power of its cells. In a case in which Professor Schuh performed laryngotomy in order to facilitate the removal of a large pharyngeal polypus, the patient who had suffered for months from a difficulty of breathing, was quite well on the day of the operation. The canula having, however, been left in during twenty-four hours, pneumonia was detected by auscultation within this period.

Thus, it results from what has been said, that pneumonia is sometimes a consequence of breathing through an artificial opening; and by due regulation of the size of the volume of air, the temperature of the room, and the timely removal of the canula, it may usually be prevented. This, however, is not always the case, for the condition of the patient may require a long retention of the canula, the lung may be excessively sensible to the changed mechanism, and art has as yet furnished no apparatus as a substitute for the alternated dilatation and contraction of the glottis.—*B. and F. Med.-Chirurg. Rev.*, Jan., 1858, from *Wien Wochensch.*, 1857, No. 20.

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40. *Process of Repair in Subcutaneous Diversion of the Tendo-Achillis.*—Mr. Holmes Coote states (*Med. Times and Gaz.*, Jan. 9, 1858) that he has had an opportunity of examining two specimens of subcutaneously divided tendo-Achillis taken from the same subject, the one operated on three months, the other rather less than two months before the death of the patient, which resulted from pneumonia.

"The right tendo-Achillis was adherent to its sheath.

It presented the usual pearly white colour. The surrounding vessels, especially the veins, were full and tortuous. The external fibrous investment was complete and of usual appearance; but between the two extremities of the tendon there was a compressed portion two inches in length, the transverse measure of which, as compared to the obviously normal part, was as two-eighths to three-eighths of an inch. A longitudinal incision through the tendon showed an interval of just two inches between the divided ends of the normal tendo-Achillis, which were united by a light gray semi-transparent structure, through which were traced well-formed opaque pearly white fibres, passing from one extremity to the other of the cut tendon. The new tissue was clearly defined from the old, being of a totally different colour, the opaque white hue of the normal structure standing out in strongly marked relief. After drying for a short time the new tissue acquired a rosy tint, obviously due to the blood contained in numerous capillaries.

The interval between the cut extremities of the left tendon did not exceed one and a half inch. The transverse measurement was the same as in the preceding specimen; but along the sheath there were numerous patches of extravasated blood. The opaque white fibres of the original tendon were separated in parts at their junction with the newly formed tissue, which appeared in the interspaces, and were dove-tailed. Towards the lower end of the connecting medium, near its junction with the calcaneal portion of the tendo-Achillis, there was an oval cyst half an inch in length, containing dark fluid blood.

The examination of the newly formed tissue under the microscope exhibited some points of interest. It contained a large proportion of oil globules intimately mingled with the firmer and more fibrous material. The latter consisted of granular matter and of newly formed fibres of ill-defined contour, yet exhibiting, in many situations, the appearance of being formed of elongated

nuclei, for, at the broken edge of the specimen, numerous loose nuclei were seen floating about free, or united in linear series of three or more. There were some whiter and more opaque parts among the newly formed tissues; these closely resembled, but did not quite equal in clearness or in contour, the normal white fibrous tissue of histologists.

The specimens here described are interesting as contrasted with others of equal value presented by Mr. Tamplin to the museum of the Royal College of Surgeons. These were the tendo-Achillis and the tendons of the tibialis posticus and anticus muscles of a child nine months old, in whom, at the age of five months, these tendons had been divided for congenital varus. The child had perfect use of its feet before death, and when it died, no trace of an operation could be detected even by microscopical examination.

The question here suggests itself—Does the absence of abnormal appearances in the tendons of the infant arise from the gradual conversion of the connecting medium into white fibrous tissue? or does the connecting tissue contract so as ultimately to approximate the ends of the divided tendon and form a "linear cicatrix?"

I must confess that in the specimens before me there is the very faintest approximation of normal appearances in the connecting tissue. The divided ends of the tendo-Achillis seem imbedded in a soft pulpy mass of quite different consistence and colour. The absorption of the oily and soft material would have reduced this structure to at least one-third its present bulk, and it would have acquired the appearance of a narrow cord. I am not, therefore, prepared to acknowledge that the newly formed tissue gradually acquires so much of the properties and of the external characters of tendon as to be with difficulty distinguishable. On the contrary, it would rather seem that a slow process of approximation is effected between the cut ends, and that this is combined with an altered sphere of muscular action.

It may be urged in opposition to this view, that the interval between the cut extremities of the first divided, and consequently more completely repaired tendon, was longer than that of the opposite. It must be remembered, however, that no great length of time had elapsed since the operation—scarcely three months—and that, in all probability, twelve months would be required for the completion of all the processes of repair in an adult.

The cyst of blood at the lower extremity of the connecting tissue in the left leg, due to some slight excess of the extending force, shows the necessity of proceeding with care in the readjustment of the distorted parts. One of the principal laws in the practice of orthopædic surgery is to proceed slowly, that tissues may yield and not tear. The specimens here quoted illustrate the importance of the remark.

I should conclude that, when specimens are examined in which no trace of the division of the tendon can be found, the divided ends have become approximated so as to constitute a close linear cicatrix. But that when the connecting tissue has been elongated it always preserves some of its distinctive characters, either as regards its bulk or its minute structure. 'I am of opinion,' observes Mr. Tamplin, in his work on *Deformities*, 'that the new substance will and does admit of sufficient extension to compensate for the greatest amount of shortening met with in any deformity; for I have repeatedly, in cases of talipes equinus, found the new connecting medium full two inches in length within three or four weeks following the operation, especially in those cases where there is no resistance in the joint, and where the foot admits of being rapidly brought into its normal position.'"

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41. *Suppuration of Strumous Glands.*—Mr. James Paget states (*Med. Times and Gaz.*, Jan. 2d, 1858), that the greater number of strumous children, with slowly suppurating cervical and other lymphatic glands, supply evidence enough that the best plan in all such cases is to leave the suppuration to increase till the skin over it is so thin, that one might think that in a day or two spontaneous ulceration would ensue. The thinnest part of the skin should then be punctured with a small knife, so as to make an opening not more than two lines in length. Through this opening the pus should be allowed to flow out slowly:

the abscess-walls should on no account be pressed. If the pus will flow in mere drops, it is well; if it stop altogether, no harm will follow. No more should be done than to cover the abscess with a soft poultice or with warm water-dressing, which should be removed twice or three times a day. The abscess thus treated will slowly empty itself, as the inflamed and stretched skin slowly recovers its elasticity and contractile power; or if the little wound should heal before the emptying, it will in a day or two reopen; or, at the most, the puncture may need to be repeated. The advantage of the plan is, that the punctured skin does not ulcerate or slough, the abscess-wall does not inflame, and recovery ensues without disturbance of the general health, and with a scarcely visible scar. In the great number of cases that I have thus treated, I do not remember to have failed to obtain these advantages. Usually, the healing of the abscess is completed within three weeks, in strong contrast, as to both time and manner, with the tedious healing and ugly scarring that often ensue when these abscesses are left to open spontaneously, or are opened widely with the knife or caustic.

The internal treatment which I have always employed in these cases when suppuration has taken place (and which, if any, will prevent its occurrence), is the giving of tonics, or iron, and good food. The medicines for children may be, according to the case, from two to five grains of the potassio-tartrate of iron, or from five to ten grains of the liquor cinchonæ, or a drachm of the cod-liver oil, three times a day. The first I think best in ordinary cases, in which the characters of struma are well marked, and not complicated; the second appears best when with struma there is marked debility, drooping, deadly pallor, duskiness; and I think it is a very good plan to give the bark with lime-water; the third seems fittest when great emaciation exists. In all cases it appears useful to give occasional small doses of the hydrargyrum cum cretâ, with rhubarb or the sesquioxide of iron. I doubt whether iodine does good in any of these cases, unless in combination with iron.

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42. *Strumous Inguinal Glands.*—Among the affections often wrongly classed with the syphilitic, is, according to Mr. James Paget, a form of suppuration in the inguinal glands, which is apt to occur in those that are enfeebled and of strumous constitution. The confusion of it with syphilis is probably due to its often occurring after gonorrhœa; but it is often seen with no such connection, and when it does follow gonorrhœa, it is often so late after the cessation of the discharge, that we can only ascribe its occurrence to the general debility which gonorrhœa is apt to produce in weakly persons.

The disease may affect the glands both above and below the crural arch, or either of these sets separately; and the feature which most certainly distinguishes it from syphilitic glandular disease is, that the inflammation, which leads slowly to suppuration, appears to involve separately each gland, with its immediate investments. The glands are not collected, as in one inflamed mass; neither is there much external swelling, or much inflammation around the proper substance of the glands; but they lie separately swollen, and commonly the skin over each, though scarcely, if at all, elevated, appears as a separate small red patch. When suppuration ensues, each gland suppurates and opens separately, or with subcutaneous narrow tracks of communication with the rest. Thus, late in the disease, we may see one or both groins, with two, three, or more openings, leading to as many suppurating cavities or tracks extending under comparatively healthy skin.

In all the characters just described, this disease of the inguinal glands bears the admitted marks of usual, but not constant, distinction between syphilitic and strumous inflammation; of the former as leading to suppuration about the glands, the latter to suppuration in them. And, in correspondence with this, the usual characters of strumous inflammations are noticeable; such as the pale rosy redness of the inflamed integuments, the thinness of the pus, the general tardiness of both the suppurating and healing process.

The best treatment appears to be, when suppuration has not yet ensued, the giving of iodide of iron, in doses of about a drachm of the syrup thrice daily, with occasional aperients, good food, and the constant application of warmth.

If the glands have suppurated, each, when the skin is thin or feels undermined, should be punctured with a small knife; and the pus may be allowed to flow out slowly without pressure. The general treatment after puncture may be the same as before; and if the abscess-cavities appear very tardy in healing, lotions of nitrate of silver should be dropped into them, or if there be sinuses they should be injected with solution of iodine. Complete rest is not necessary; the general advantage of moderate exercise in the open air is greater than the injury done by moderate movements of the groins.

I know no disease in which the iodide of iron does so much good as in this; and it appears better than any other preparation of either iodine or iron, and better than bark in any form.—*Med. Times and Gaz.*, Jan. 2, 1858.

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43. *Cancerous Lymphatic Glands.*—Few diseases, says Mr. JAMES PAGET (*Med. Times and Gaz.*, Jan. 2, 1858), are so insidious in their early progress as primary cancer in the cervical lymphatic glands. Beginning like an ordinary hypertrophy or chronic inflammation of the glands, it may advance far without exciting much, if any, suspicion of its terrible nature. Then, as the swelling increases, and, if increasing rapidly, becomes softer at its most prominent part and covered with florid skin, the imitation of suppuration may be so close as to deceive the most practised touch. Puncture by mistake may now discover what is going on; but in some cases, it may only prolong the oversight; for suppuration may have taken place in the substance of a cancerous gland. I have even seen repeated collections of pus in a cluster of cancerous glands, emptied by repeated punctures, prolonging the belief that no cancerous disease existed, though other signs of its presence seemed distinct.

I cannot tell how this error of diagnosis may be always avoided; but the following may be useful helps. In patients of middle or older age, all enlargements of cervical glands, that are not evidently inflammatory or sympathetic, should excite some suspicion of cancer. The suspicion should be the greater the older the patient is. It must be increased, if the glands affected are under the upper part of the mastoid muscle, and still more if they are under the middle of the muscle. It is a bad sign when they form a close compact cluster, or when, after puncture, the swelling does not at all subside; and equally bad when the swelling, as it increases, becomes less movable. The harder the glands are at first, the more they must be feared; and the probability of cancer is greatly increased if the patient loses weight and strength, or is a member of a family in which cancer has occurred.

The difficulty of diagnosis which is here referred to occurs most commonly in cases of primary cancer of the glands; but it may occur also in those of secondary cancer; for the disease in the glands may so predominate over the primary disease in the tongue, mouth, or jaws, that of this the patient may know little and say nothing. All these parts therefore should, in every case, be carefully looked to.

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44. *On Congelations.*—M. VALETTE having had abundant opportunity during the late war of studying this subject upon crowds of French soldiers in the hospitals at Constantinople, suffering from congelation of the hands and feet, has contributed an interesting paper respecting it to the valuable *Journal of Military Medicine* published by the French Army Medical Department. The following are his principal conclusions:—

1. A moderate degree of cold is sufficient to give rise to the more or less serious effects of local congelation, when it is aided by numerous causes of general debility. 2. These effects may be divided into five different degrees. I. The sensibility and motility of the parts are chiefly affected; but the effects are usually dissipated within twenty days. II. The formation of phlyctænæ. III. Ulceration of the superficial layers of the dermis. IV. Mortification of the skin and subjacent cellular tissue. V. Sphacelus of a more or less considerable portion of a limb. 3. This last form sometimes affects the whole of both feet simultaneously, coming on insidiously with the symptoms of the first degree. A brownish depression suddenly encircling the lower end of each leg, opposite the base of the malleoli, is the sign of its invasion. 4. The fourth and fifth

degrees have never been observed as the result of a too sudden return of the circulation and warmth in the parts affected, the gangrene always supervening upon the gradual extinction of vitality unattended by any local reaction. 5. The progress of these congelations was rendered remarkable by the slowness with which the functions of the parts became re-established in the two first degrees; and the great delay attending the process of cicatrization in the three last. 6. The chief fatal internal complications were diarrhœa, tetanus, and typhus. 7. Independently of complications, the congelations never gave rise to the phenomena of general reaction; but in some patients, on the elimination of an important part—*e. g.*, both feet—the febrile action took on the form of quotidian intermittent. 8. It was not in general possible to determine during the first days with what degree of congelation the part was smitten. 9. In all cases prognosis should be very reserved. Still, setting internal complications aside, it may be said to be favourable in the first three degrees, and unfavourable in the last two. It is more favourable when the hands than when the feet are affected, and it is highly unfavourable when diarrhœa of more than two months' date, pseudo-membranous bronchitis, adynamic pneumonia, dropsy, or tetanus is present. 10. The prophylaxis should consist in the frequent change of tents, the addition of preserved vegetables to the rations, the frequent distribution of small quantities of alcoholic drinks, and in the anointing the feet with some fatty body, as tallow, that may be spread into a thick layer. 11. General treatment exerts great influence on the progress of local congelations, and should be directed in regard to the prevailing anæmia and debility. 12. The local treatment of the first degree should consist in the application of lotions containing laudanum, conjoining with these, if œdema is present, frictions, with tincture of digitalis and camphorated spirits. The parts should afterwards be carefully wrapped in flannel or wadding. In the second degree, the epidermis should be carefully preserved after evacuating the serosity. In the third degree, the pain and itching of the ulcers should be allayed by fermentation with infusion of elder containing laudanum and extract of lead, while the process of cicatrization should be hastened by caustics. In the fourth degree the danger did not consist in too active local reaction, as observed in men in the full plenitude of vital power at the time of congelation, but in a gradual, insensible extinction of life in the parts affected. Stimulant frictions are at once indicated, and if eschars still form, they should be removed as soon as possible, by carrying the knife along the limit separating the dead from the living parts. In the fifth degree, elimination should be encouraged by stimulating fomentations; and when the ulcerative furrow has sufficiently separated the dead from the living parts, any ligaments, tendons, or bones which impede complete separation, should be divided level with the living parts —an operation perfectly harmless, and much abridging the progress of the case. [The harmlessness and propriety of this interference, we may observe, is denied by M. Baudens and other Crimean observers.] 13. It results from the observations made in Africa, and the experience gained in the Crimea, that, as a general rule, amputations should be abstained from in cases of congelation, leaving these to the reparative powers of nature, at the same time aiding by general and local means the elimination of the dead parts. To this general rule, however, the following cases are exceptions: I. When trismus occurs in a subject too debilitated to admit of bloodletting, the patient will die in twenty-four or thirty-six hours unless amputation is speedily performed. II. When a congelation of the fourth degree is complicated by diarrhœa, which resists treatment, amputation must be performed, in order to render the economy susceptible of the influence of therapeutical agents. III. When sphacelus of both feet is announced by the appearance of the brownish circle at the lower extremity of each leg, amputation must be performed, or the patient will sink under an exhausting diarrhœa. When internal complications do not prevent it, the interval of a week may elapse between the two operations. 14. In the choice of the spot for the performance of the operation, for the sake of securing a more rapid cure, we should select this as far distant as possible from the seat of congelation, short of endangering the patient's life by a too near approach to the trunk. 15. When resection of one or more bones

is indicated, it is of great importance, in order to shield the patient from the effects of purulent absorption, that we should confine our interference to the limit between the dead and living parts, without implicating the latter.—*B. and F. Med.-Chirurg. Rev.*, Jan., 1858.

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45. *A Mixture of Collodion and Castor Oil as an Application to Severe Cases of Burns and Scalds.*—A mixture of two parts of collodion and one part of castor oil has been extensively used at King's College Hospital, and is said to possess many advantages over other applications. It is painted over the entire surface of the burn, so as to afford a coating to the parts which entirely excludes the atmosphere without obscuring the surface of the sore from view. It is said to have the effect of immediately lessening the pain; and that in all the cases in which it has been applied, the sloughs which have subsequently formed have appeared to be much less deep than usual. These cases are recorded in the *British Medical Journal* (Dec. 26th, 1857), in which this application was used with the most satisfactory results.

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46. *Employment of Collodion in Orchitis.*—Having treated 64 cases of gonorrhœal orchitis in the Maggiore Hospital, Milan, solely by means of collodion, Dr. Lossetti comes to the following conclusions: 1. Orchitis, epididymitis, or inflammation of the spermatic cord, even when intense, arising from blennorrhagia, yields much more readily to the application of collodion than to the ordinary antiphlogistic treatment, actively employed. 2. The most efficacious means of obtaining certain and rapid recovery is the application of the collodion (the author prefers to pure collodion a mixture of one part of castor oil and twenty-four parts of collodion) twice a day until the cure is completed, applying it oftener, however, in cases of extreme gravity. 3. Under the use of the collodion, the indurations and enlargements which remain after the relief of the inflammatory action will be dispersed without the aid of any other means. 4. By means of its application, the erysipelas of the scrotum that sometimes complicates the orchitis becomes resolved, and the cellular infiltration that almost always accompanies or succeeds it disappears. 5. The treatment required besides only consists in the observance of a low diet, rest, and cooling drinks. 6. This mode of treatment is more economical than the antiphlogistic mode, by reason of the shorter time it requires (according to the author's cases, eight days as compared to fourteen by the ordinary treatment), and the saving of expensive remedies, as leeches, etc. 7. The treatment is also to be preferred, since the digestive organs are not disturbed by active purgation, and the general powers are not enfeebled by this and the abstraction of blood. 8. The sensation of burning produced by the application of the collodion never amounts to the extent of acting as a contra-indication. It becomes violent, and even insupportable, only when some minute lesions of continuity of the skin of the scrotum are present; and these only require to be protected by cerate or court plaster, to enable the patient to bear the application.—*Med. Times and Gaz.*, Jan. 16, 1858, from *Omodei Annali Univ.*, vol. clix.

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47. *Large Doses of Disulphate of Quinine in Dysuria and Retention.*—Dr. Serres, of Dax (France), quotes eleven cases of his own practice where he succeeded in removing the dysuria, or conquered the retention, by giving disulphate of quinine in doses varying from eight to ten grains every half hour. In retention, urine began to flow after the second or third dose, and no instrument was used in the cases mentioned. It would also appear that the quinine did not produce any unpleasant symptoms. How does the alkaloid act in these instances? Probably by allaying spasm. One case is recorded where several strictures had existed for a long time, and the quinine was, nevertheless, successfully administered.—*Lancet*, Jan. 23, 1858.

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48. *Thoracic Aneurism successfully treated.*—Mr. Tufnell related the following example of this to the Surgical Society of Ireland (Dec. 12, 1857). Samuel Parkes, æt. 54, a die cutter and seal engraver, a delicate looking man (and exhibiting considerable cardiac distress), was admitted into the City of

Dublin Hospital on the 18th of September, 1854, with thoracic aneurism. He stated that he had always been temperate and steady, but had worked very hard at his trade, that of die cutting in steel. For some time back, he had felt heaviness in his chest, but had not noticed anything particular until about five weeks prior to admission, when one night, on taking a pill for constipation, it passed into the trachea. He was seized with intense coughing, which lasted for an hour, and was exhausted by its severity. Two days subsequently he experienced severe pain in the right breast, and the next day a tumour appeared elevated above the surrounding skin, which had gradually increased up to admission.

At this time, the tumour was three inches in diameter, elevated in its centre nearly two-thirds of an inch, with considerable pulsating action, the integument over it being apparently not thicker than three or four lines. The integument itself was not discoloured. The tumour presented to the right side of the sternum, in the situation of the third and fourth ribs, which, together with a portion of the sternum, had been absorbed. There was a double pulsation sound, but no murmur. The pulse was 88, full and regular, and equal at either wrist. The patient's general health seemed good, and he complained only of the pain in the tumour, which he said was excessive. He had continued to work at his trade until obliged to relinquish it in consequence of the severity of the pain.

The aneurism evidently sprung from the anterior aspect of the right side of the ascending portion of the arch of the aorta, and was progressing rapidly to the surface, absorbing all before it. It must have existed for some time unperceived by the patient, and its appearance on the coughing fit shortly before must have depended upon previous removal of the bony and cartilaginous structures intervening between it and the integument.

Regarding the case as one suited for Dr. Bellingham's plan of treatment upon restricted diet and rest, I spoke to the patient, and asked him if he would aid in carrying it out, and confine himself rigidly to the diet and regimen prescribed. I explained to him the critical condition in which he was placed, and his almost certain progress to speedy death, unless the absorbent action then going on could be arrested, and the sac so lined with fibrin from within as to prevent further distension of it. He consented readily, and, I believe, *strictly* kept his word, and took no food or drink whatever during the period of his stay in hospital other than that which he was allowed.

I ordered him to have an excellent well made bed, with two hair mattresses, and plenty of pillows for props, and once recumbent, not to rise for any purpose whatever, a urinal receiving the vesical, and a bedpan the alvine discharges. I desired him to speak as little as possible, and furnished him with plenty of books. His diet was confined to two ounces of white bread and butter for breakfast, with two ounces of good new milk; two ounces of white bread and two ounces of broiled mutton for dinner, with two ounces of milk; and two ounces of white bread and butter, with two ounces of milk, for supper; thus making the total of the solid food to amount to only eight ounces, and of the fluid food to six ounces, in the twenty-four hours. Ice was applied in a bladder at intervals over the tumour. This treatment was commenced upon the 19th of September, and continued steadily until the middle of November. Its effect was as follows: At first, he felt the loss of food, and used to look anxiously at the other patients' meals, but being a sensible man, he restrained his appetite. He suffered more from thirst than from hunger, and complained a good deal of dryness of the throat and fauces at night, which, however, was somewhat relieved by keeping a small pebble in his mouth.

He daily complained less and less of these annoyances, and by the 25th September was progressing rapidly, the pulse being reduced to 70, and soft; the pulsation and pain of the tumour greatly diminished. An untoward circumstance now occurred which threw him back. A case of delirium tremens was admitted into the ward, and the violence of this patient caused him agitation and alarm. When visited on the morning of the 26th, the heart's action was found to be tumultuous and impetuous, and the whole system much disturbed. He was ordered a little port wine and opium, and by degrees confi-

dence and calmness of mind were restored. By the 28th, he had regained his previous condition; the pulse was full, but very compressible, and beat steadily at 70 in the minute. The tumour seemed flatter, and was described by the patient "as feeling condensed into a smaller space." The ice had been discontinued for some days, and a thin piece of linen rag, moistened with water only, kept as an evaporating medium to the surface. The double thump had already disappeared in the tumour, and a single beat only could be felt, corresponding to the natural sound of the heart, but slightly louder. The patient had ceased to complain of hunger or thirst.

Upon the 2d of October, the pulse had fallen to 62. He could now lie flat upon his back for two hours at a time without experiencing any uneasiness; after this, however, uneasiness was felt, and unless his position was shifted to the side, cardiac agitation was experienced. I mention these particulars, for, though apparently trifling in themselves, upon attention to them must depend much of the likelihood of success in treatment, *where all is dependent on quietude of circulation* and rest. The tumour now gradually became more and more firm to the feel, and flattened and declined. Towards the middle of November, his general health was excellent, and his weight had but very little reduced.

His diet was slightly increased, and on the 13th of December he left the hospital at his own desire, having been able for some time to walk about the wards and up and down stairs without distress. For the latter part of his stay in hospital, he was under the care of my colleague, Professor Hargrave, my period of attendance having expired.

I saw nothing more of this man from that date until a short time since, when he called upon me to request my advice for an irritable ulcer of the leg. I partially recognized him, but not entirely, and on asking if I had not seen him before, he replied, "Oh, yes, sir; you cured me of an aneurism; but it is not about that that I am come, it never troubles me now." I looked at the ulcer of the leg, but felt more anxiety to ascertain the condition of the contents of the chest and the changes which had taken place. I should, however, premise by stating the nature of his occupation and proceedings during the intervening three years. Upon being questioned, he said that on leaving the hospital in December, 1854, he had returned home, "feeling able to do something for his family's support;" that in March following, he regularly resumed his trade as a die and steel engraver, and had continued steady at work ever since.

Upon stripping him, the first point that attracted notice was the enlargement and tortuous state of the abdominal and pectoral cutaneous veins, the epigastric, circumflex, and mammary having assumed the condition of large venous trunks. The tumour next arrested attention. It projected to the right side of the sternum, nearly midway between the clavicle and nipple, but inclining to the former, where it presented a bulging prominence the size of a small saucer, occupying the situation of the cartilages of the second and third ribs, making this side contrast strongly with the hollow intercostal spaces and marked ribs upon the left. No pulsation was visible in the tumour, nor made apparent when any testing object (such as a portion of white paper) was placed upon it. To the hand it felt dense, and the cardiac impulse against the interior of the sac was unheeded. The sound on percussion was dull over a very large space around the tumour, whilst to the ear a double sound was given, intermediate in time to the contractions of the heart. Upon deep inspiration of the whole chest, this portion was not expanded. The heart's sounds were audible over a very large portion of the chest, and the pulsation, aneurismal and cardiac, was communicated to the hand or ear for a space of fourteen inches in an oblique line from the right clavicle down to the left hypogastric region.

His general appearance indicated a barrier to the return of venous blood to the right side of the heart. There was some congestion of the face, especially increased upon stooping, with puffiness of the neck and face to a slight degree. There was no interference by pressure upon the trachea, or, at least, to any extent, none upon the œsophagus or the deep nerves of the chest; for stridulous breathing, dysphagia, and aphonia were all wanting, his functions in this respect being very good. He had some cough and expectoration, which caused

him a good deal of annoyance, particularly at night. After coughing, he said he occasionally feels pain dart into the tumour, but not at any other time. There was no interference with either the carotid or radial pulses, and of the latter, the circulation was equal on both sides. He stated that he lies at night on the right side to sleep, and cannot rest upon the other, but changes over to it occasionally prior to going to sleep. He said that he had during the past year lost flesh, and is not as strong as he was, but still works regularly at his trade, which is a fatiguing occupation.—*Dublin Hospital Gazette*, Jan. 1, 1858.

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49. *Cure of Popliteal Aneurism by Digital Compression of the Vessel corresponding with the Sac.*—M. Vanzetti submitted a short time ago to the Surgical Society of Paris two cases of popliteal aneurism, in which he obtained the consolidation of the contents of the sac, in forty-eight hours in one case, and five hours in the other, by the continuous compression of the femoral artery, by means of the fingers alone. Relays of students were employed in these cases. M. Michaux, a French surgeon, has also presented a similar case to the Society, where a cure was obtained in twenty-four hours. The reporter on these cases, M. Verneuil, took the trouble of collecting all the cases where this treatment has been used, and he found that out of seventeen, only seven were unsuccessful. From a review of these cases, the reporter thinks himself justified in submitting the following propositions to the Society:—

1. Indirect digital compression, either steadily continued or intermittent, and kept up by skilful assistants, or by the patients themselves, has cured aneurisms without the assistance, before or during the treatment, of any other therapeutical measure.

2. Digital compression, associated or alternating with the tourniquet, has also led to rapid cures. Success, when likely to be obtained, is in general rapidly attained.

3. It has cured aneurisms, when mechanical compression was impracticable, or was forcibly given up. It is more easily supported than the latter, as the fingers can exert compression, even when the skin is inflamed.

4. "Digital compression is more efficacious and less painful than any other kind, as the action may be limited to the artery, and does not include the neighbouring nerves and vessels. The skin also is less tried."—(*Broca on Aneurism*, p. 807.)

5. Digital compression may fail to produce a cure; but even then it advantageously modifies the condition of the aneurism.

6. It may be surmised that, alone and unaided by other means, it would have led to a cure, had it been applied more perseveringly and regularly than was done in the cases above alluded to.

7. No accident whatever has to this day attended this mode of treatment.

8. Digital compression was first practised by Saviard, a French surgeon, after an operation for aneurism by the old method; this compression has not been as generally and extensively applied in France as it could be wished.—*Lancet*, Feb. 20, 1858.

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50. *Excision of Enlarged Tonsils.*—For chronic enlargement of the tonsils, whether through simple overgrowth or in consequence of chronic inflammation, the excision of the projecting portions, Mr. James Paget states (*Med. Times and Gaz.*, Feb. 6, 1858), seems by far the best treatment. So far as I have seen, the cutting of tonsils is never followed by severe hemorrhage or other serious inconvenience, provided they are not inflamed at the time of being cut. And I believe that if other means of reducing the size of enlarged tonsils be not quickly beneficial, the excision should be adopted both oftener and earlier than it commonly is. One frequently sees cases in which delay in operating has given time for the occurrence of the incurable "chicken-breast" deformity of the chest, which Dr. Warren pointed out as a common result of the habitual hard breathing of children with enlarged tonsils.

The double vulsellum and common probe-pointed bistoury are, I believe, the most advisable instruments for this operation, because, among other reasons, they are equally fit for all cases. There are certainly some cases for which

even the most improved guillotines are insufficient instruments; those, namely, in which the enlargement of the tonsil extends so far down by the side of the pharynx, or up towards the soft palate, that a fair portion of the disease cannot be taken within the ring or loop of the guillotine. For these broad-based enlarged tonsils, the knife alone is applicable; and, to remove them effectually, it is advisable to have a facility which will hardly be possessed if the knife be used for them alone, but which the hands accustomed to the cutting of common enlarged tonsils will seldom lack. The general direction for the operation must be to cut from below upwards, the blunted point of the knife being carried well backwards, and its edge just internal to the posterior arch of the palate.

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51. *Experience of the Surgeons of the "Dreadnought" as to Pirogoff's Operation at the Ankle-joint.*—The success attending the above operation at the "Dreadnought" has induced Mr. J. Croft, the assistant surgeon, to call the attention of the profession to the following facts:—

Six times the operation has been performed, and in four instances with most perfect success; but in the two remaining death removed the subjects of operation before cure was completed—in the first instance by granular disease of the kidneys, and in the second instance by secondary deposits of pus in various joints.

In two of the six cases in which cure was completed, the operation was performed for the removal of scrofulous disease of the articulations between the tarsal bones; and in the two others the operation was for frost-bite of the anterior part of the feet.

Progress towards health was marked by suppuration along the tendons of the tibialis anticus and posticus and the peroneal tendons in each of the cases, but not by exfoliation of bone. The posterior part of the os calcis was united firmly with the tibia, generally in about three weeks; but in one instance—the last in which the operation was performed—union was good at the end of twelve days.

I may here remark, that although the os calcis may be diseased at and about its articulating surfaces in instances of scrofulous disease of the joints of the tarsus, it is rarely that the posterior part is rendered too unhealthy to be made use of in the formation of a stump.

The advantages of this operation over "Syme's" (the only operation with which it can be compared) are, that it may be performed more rapidly as to time, leaves a more vascular flap, forms a longer stump, and produces a firmer pad for the subject to walk upon.

Less time is occupied in the operation for the somewhat troublesome dissection of the skin of the heel from the os calcis is avoided, and the os calcis sawn through instead.

Greater vascularity of the flap is secured, for the plantar arteries are divided in the hollow of the foot.

The length of the stump is a very important point; it is longer than that in Syme's operation, by the portion of the os calcis left on the flap, which should be quite one inch and a quarter. In the four instances mentioned, the difference in length between the foot operated upon and the sound foot, was never more than three-eighths of an inch.

The mode of operation, as performed by Mr. Busk, Mr. Tudor, and myself, is to grasp the projecting portion of foot with the left hand, then to enter the point of the knife *immediately* behind the malleolus, and make a semicircular incision, in front of the point, terminating at a corresponding point behind the opposite malleolus; next, to carry the incision downwards and slightly forwards to the edge of the sole of the foot, straight across the sole, and terminate it at the opposite malleolus, or the point at which the incision was commenced.

Having disarticulated the foot, the soft parts are to be separated from around the os calcis in a line from the posterior margin of the upper articulating surface to the under edge of the articulating surface of the cuboid, and the mass in front of this line to be removed by the saw.

The ends of the tibia and fibula are sawn off in the way usual in Syme's

operation. During the process of separating the soft, or rather tough parts, about the os calcis, care should be taken to keep the edge of the knife close to the bone, in order to avoid wounding the posterior tibial or plantar arteries. The portion of the os calcis left on the flap should be placed in contact with the end of the tibia, and if the saw has been entered well behind the calcaneo-astragaloid articulation, and brought out at the under margin of the calcaneo-cuboid articulation, the contact will be accurate. If the bones cannot be placed in accurate contact, thin slices of bone from the upper and back part of the portion of the os calcis should be removed by the saw until they can be adapted. The saw we prefer is Bigg and Milliken's modification of Butcher's Dublin saw. —*Lancet*, Feb. 6, 1858.

52. *On some Points connected with the Treatment of Obstinate Stricture of the Urethra.*—Mr. Henry Smith read a paper on this subject before the Medical Society of London (Jan. 30th, 1858). He commenced by defining the term obstinate in reference to stricture, and referred to three forms of the disease where this obstinacy obtained. The first was where the main source of distress to the patient and difficulty for the surgeon, existed in the excessive irritability of the urethra, which would not allow of treatment to be carried on satisfactorily by ordinary means. In the second class of cases, the stricture was marked chiefly by its density, and by the peri-urethral condensation of the parts to the perinæum and scrotum, accompanied occasionally with fistulous openings. In addition, also, there might be the extreme irritability associated with the first form of stricture: if so, the surgeon would have to deal with a most difficult case. In the third form of the disease, the author referred to those cases of stricture which were entirely caused by injury to the perinæum, which occurred at the earliest periods of life, and which were especially marked by extreme density of the parts, and rebelled generally against ordinary treatment.

For the treatment of these cases, which in the more severe forms so often baffled the ordinary means employed, the author considered that much more might be done than is at present. In the first kind of case, where the stricture was accompanied by extreme irritability of the parts, great attention must be paid to preparatory measures for some days before local treatment is commenced; entire rest, freedom from all stimuli, careful attention to the various secretions; and when these were improved, the liberal administration of opium were the means administered. When the system had become less irritable dilatation was to be commenced; but when there were, as is often the case, two or more strictures, and those excessively narrow, the treatment by the use of metallic catheters and sounds has to be especially avoided, as much irritation, is caused by them in severe cases; whilst in others the patients will not allow them to be used a second time. Wax bougies, however, when well made and skilfully used, could be employed without producing irritation, and dilatation could be carried on up to a certain point where no other instrument would effect it. The objections urged against the wax bougie as an unreliable instrument were not founded upon good evidence. It was, however, only in the early stage of treatment that Mr. Smith used the wax bougie; for as soon as a fair-sized bougie could be introduced, he went on with the treatment by using metal instruments. When from the excessive irritability of the urethra dilatation could not be proceeded with, the author strongly advocated the use of potassa fusa, as employed by Mr. Wade, applied very lightly, and detailed a case illustrating the benefits of that agent in a great degree.

In the second form of the disease, preparatory treatment was of great avail; but here the peri-urethral thickening should be reduced by applications of leeches from time to time, by continual fomentations and poulticing. Then, instead of forcing a small catheter through the tight obstruction, the author recommended that a fair-sized solid sound or catheter should be passed down to the face of obstruction, and held against it for some time. If these and other measures failed, the potassa fusa was to be applied more freely than in the first kind of cases referred to.

In the third form, where the stricture was traumatic, the surgeon would have great trouble. Fortunately, however, there is little irritability in such cases,

and therefore the surgeon might employ his measures somewhat more freely. Retention of the catheter and the potassa fusa are the agents to be relied upon.

The author considered at some length the action and use of potassa fusa, and spoke highly of it as an adjuvant to other treatment, but strongly deprecated its frequent or free employment. He detailed some cases in support of his views, and concluded his paper by some observations on the treatment of obstinate forms of stricture by incisions. He considered cutting as a remedy for stricture as bad in principle, and believed that a cure could not be effected by it more than by any other measures. Cases related by surgeons and in hospital reports hitherto could not be relied on, as the history of the patients was generally only brought down to a few weeks from the operation. Years were necessary before a proper appreciation of cutting could be made. Mr. Smith detailed the particulars of two or three cases, where cutting had been performed years previously, and where the results, at first satisfactory, were ultimately quite the contrary.

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53. *Diagnosis of Hydrocele.*—Prof. Nelaton recently addressed the following observations to his clinical class: In some cases the diagnosis of tumours of the testis presents almost insurmountable difficulties. The slightest circumstances then acquire the highest importance, and it becomes of importance that we should not attribute to any sign a degree of confidence that it does not deserve.

The Transparency of the Hydrocele.—In order that this should be effectually exhibited, we should take care that the patient is not exposed in broad daylight. Another point just as indispensable is often neglected. When the surgeon commences his explorations, the sudden impression of cold causes a contraction of the dartos, and however slightly the size of the tumour may allow of its rising towards the ring, to that extent the scrotum becomes relaxed, wrinkled, and increased in thickness. This is one of the impediments to transparency, but there is another of much more importance. This ascending movement, by bringing the tumour nearer the axis of the body, prevents the light from falling perpendicularly on its surface; and the rays which fall under too oblique an incidence do not penetrate the tumour, and consequently cannot exhibit its transparency. It becomes necessary, therefore, to isolate the tumour as much as possible, to, so to speak, enucleate it, by taking hold of it near the ring and pressing it forward, separate it as much as possible from the other parts of the body. In this way, the wrinkles of the scrotum also disappear, and the stretched skin diminishes in thickness. Transparency may now be easily shown, by placing the light very close (two or three centimetres), and on a transverse axis, passing through the middle of the tumour, so that the rays may traverse it unreflected. This precaution, of no account in simple cases in which error is well nigh impossible, is indispensable in those in which the surgeon remains undecided as to the nature of the disease, precisely because he cannot establish the transparency. M. Nélaton has met with many cases in which the surgeon, from want of being aware of these facts, has mistaken hydrocele for far more important affections of the testis.

Specific Gravity.—Most surgeons attach very great importance to this sign, but it will be easy to show that it does not deserve the confidence placed in it. The hand, raising the tumour, has to estimate the weight of the entire mass; and these tumours, when even of the same nature, possess very different amounts of movability, accordingly as they are attached by pedicles, letting the hand pass on all sides, or are bound down by the contraction of the cremaster, dartos, and scrotum. Moreover, we have not to appreciate the absolute weight of the tumour, but its relative specific weight, as compared with that of another mass of a different size—a mass not now at hand capable of being compared, but estimated at some former period, under similar unfavourable conditions, its specific gravity being retained in the memory.

Let a piece of gold of a certain volume be placed in the hand of an individual, and a week afterwards give him a piece of copper of the same volume, desiring him to appreciate the relative specific weight of the two metals. Certainly he will not do this readily, and the task will become far more difficult if we pre-

sent to him pieces of different size. And yet is the specific weight of gold more than double that of copper. What must happen, then, when we have to compare with each other, under the above-mentioned unfavourable conditions, masses of a specific weight so slightly differing as hydrocele and the other diseases of the testis? For, in fact, the difference of the specific weight of the liquid of hydrocele, and of that of the matters constituting other diseases of the testis, is almost insignificant. Of this we may be easily convinced by examining the figures M. Nélaton has obtained by comparing the weight of various tumours with the weight of the same volume of water.

A hydatid cyst of the testis, weighing 466 grammes in the air, displaced 450 of water, giving a difference of less than $\frac{1}{30}$. An encephaloid tumour gave a difference of $\frac{1}{40}$, and a cancerous sarcocele gave a difference of about $\frac{1}{15}$. Now it is evident that a difference even of $\frac{1}{15}$ is quite inappreciable in the conditions under which the surgeon operates, while the density of the serosity of hydrocele is somewhat greater than that of water, and in the experiments the weight of the tumours are compared with that of water, without taking into account the addition of tissues which exist in the living subject. But these tisssues, viz., the testis and its coverings, are nearly of the same density as encephaloid matter. It may be then said that the sign drawn from the specific gravity of tumour of the testis is positively of no value. It is one of those signs invented in the study, and has continued to be handed down to us because no one has thought of examining into its exactitude.—*B. and F. Med.-Chirurg. Rev.*, Jan., 1858, from *Gaz. des Hôpitaux*, No. 124, 1857.

OPHTHALMOLOGY.

54. *On some Points in the Pathology and Morbid Anatomy of Glaucoma.*—Mr. Hulke read before the Royal Med. and Chirurg. Soc. (Jan. 12th, 1858) a paper on this subject.

The ophthalmoscopic examination of many cases of glaucoma, and the dissections of several eyes affected with this disease, have furnished the facts detailed in this paper. Two chief forms of glaucoma have been long recognized: they are the acute and chronic, but a large number of cases occupy an intermediate position. The symptoms of acute glaucoma have been often and well described, but the ophthalmoscopic signs are less widely known. They are: a dilated state of the retinal veins, often tortuous and turgid with blood; small ecchymoses scattered over the surface of the retina; occasionally small blood-clots in the vitreous humour; pulsation in the arteria centralis retinæ; and an excavated state of the optic papilla. These last two signs were, the author believes, first noticed by Graefe, who insists upon their being pathognomonic of this disease. Although in acute glaucoma the urgent symptoms often set in very suddenly, yet in a large number of cases the outbreak has been foreshadowed by a train of premonitory symptoms. These are: occasional dimness of sight, often towards evening, shooting pains in the eyeball, muscæ, and a gradual diminution of the field of vision. Graefe has drawn particular attention to this last point. The outbreak may be followed by a remission, only a temporary improvement, for fresh paroxysms will occur, and blindness inevitably result. In the advanced stages sclerotic staphylomata are apt to occur, mostly behind the insertions of the recti tendons. Chronic glaucoma differs from the acute chiefly by the insidiousness of its course, which is unmarked by those violent symptoms which characterize the outbreak of the acute form. It is quite as intractable as the acute form. The retinal veins are turgid, and the retina is sprinkled with hemorrhagic spots, just as in the acute form. Sometimes in the same person one eye is attacked by acute, the other by chronic glaucoma. The facts favour the supposition that acute and chronic glaucoma are only different forms of the same disease. Graefe has called attention to a peculiar form of amaurosis, in which the optic papilla is excavated. This affec-

tion must be carefully distinguished from glaucoma, which may be done by observing that the globe is not tense, and the other signs of hyperæmia are also absent.

Morbid Anatomy of Glaucoma.—The small blood spots which are sprinkled over the inner surface of the retina are small spots of capillary hemorrhage. This condition was first recognized in glaucoma, by actual dissection, by Mr. Bowman. The bleeding proceeds from the capillaries in the inner layers of the retina, and the blood either spreads literally amongst the elementary structures of the retina, or bursting through the hyaloid membrane, it forms small clots in the vitreous humour. The retinal capillaries are irregularly dilated and studded with small fusiform and globular enlargements—little aneurismal pouches. These dilatations do not occur on the large vessels. The pouches and the vessels communicating with them are usually crammed full with blood corpuscles. In the hemorrhagic spots the retinal tissues are infiltrated with blood disks, which have escaped by the bursting of some of these little aneurismal pouches. Excepting the changes described above, the retinal capillaries have a healthy appearance, and do not present traces of fatty or atheromatous degeneration. The coats of the arteries are hypertrophied. The *vitreous humour* sometimes has a yellow tinge, which is derived from the colouring matter of the effused blood. It often contains blood disks and delicate fibrinous webs; and sometimes also small blood clots, which can be clearly seen with the unaided eye. The vitreous humour has a very remarkable degree of consistence, and does not quickly flow off when the eyeball is cut across. Viewed by transmitted light, the glaucomatous lens has a yellow tint like the vitreous humour, and which is probably acquired from the same source—viz., the colouring matter of the effused blood. The relations of the lens and the vitreous humour favour this supposition. In none of the dissections were any morbid changes found in the choroid, unless when staphylomata were present. Corresponding with the staphylomata, the choroid, retina, and sclerotica preserve their natural relations to one another, and are not separated by any effusions. The choroidal pigment is irregularly distributed; the tissues seem opened out. The subsequent changes in the retina and choroid, in the advanced stages of the disease, have an atrophic character. The dilated retinal capillaries and their contents have been found, dark and granular, in a state of fatty degeneration, and the contiguous parts of the retina participate in these changes. The symptoms, the ophthalmoscopic signs, and the structural changes which take place early in the disease, all point to a state of great vascular excitement in the retina, and a greatly increased internal pressure upon the walls of the globe. It is this pressure which causes the blindness in the early stage of the disease, and the fixed dilated pupil, for when the pressure is relieved by operation, sight and mobility of the pupil return.

Mr. Bowman thought that Mr. Hulke's paper afforded a remarkable instance of the very great advances which had been made within a few years in our knowledge of eye diseases, especially those which were deep-seated, and which, within a comparatively recent period, were extremely obscure, and for the most part very unsatisfactory in regard to treatment. With regard to the morbid anatomy of those affections they were indebted to the great advances made in microscopic anatomy; but these would have been comparatively ineffectual in elucidating the nature of morbid changes in the deeper structures of the eye, had it not been for the opportunities of inspection immediately after the tissues had perished, which were afforded by the plan of treatment followed out by Mr. Critchett and himself within the last three years, of excising globes affected with chronic and excessive pain, more or less jeopardizing the other eye, and at any rate rendering the patient's existence very uncomfortable. The operation of excising an eye which was destroyed already and of no use in the economy, was now known to be an extremely simple proceeding, and one that could be adopted with perfect safety; it was done under chloroform, without pain; it was immediately followed by relief of the symptoms, and an artificial eye could be worn in a few days. He alluded to the operation as having given the means of examining the nature of the morbid changes in the deeper parts of the eye within an hour after removal, and enabling the microscopist to ex-

plore with great accuracy all the minute structures which were concerned, and to detail the several changes which they presented. Another circumstance of still greater importance was the invention of the ophthalmoscope, an instrument which was second to none in the exploration of the physical condition of disease in parts not open to ordinary sight. It had laid open all the parts of the eye, so long as they remained transparent, which were situated behind the pupil, and which before were absolutely closed to inspection. Formerly one might conjecture the condition of the eye behind the pupil, and sometimes by dilating the pupil with belladonna, get a dim insight into certain parts of the interior; but nothing was known of the structure of the retina during life from actual examination. With the ophthalmoscope everything near the axis of vision could be explored if the media were clear, and if they were not clear their opacity was thus disclosed. The Germans, by whom the instrument had been invented, were in advance of the English and French in its application; and no one had done more in the exploration, by its means, of the changes in the deeper parts of the eye than Professor Graefe of Berlin, to whose work on glaucoma the author had alluded. He had made out all the changes occurring in that remarkable disease. He had shown that there was a gradually increasing pressure within the eye contingent upon an increased afflux of blood into the vessels of the interior, and that with this there were several secondary changes. There was an enlargement of the veins on the surface of the eye in the same way as the veins of the abdomen were enlarged when the circulation through the liver was impeded. There was also an excavated state of what he should not call the "optic papilla," but the entrance of the optic nerve. Another remarkable condition alluded to by the author was the pulsation of the artery of the retina. Naturally that artery had no visible pulsation; but if the eye was pressed, even in a healthy person, for a certain time the pulsation might be rendered visible, the circulation being so impeded that the afflux of blood was shown at every jet. When this condition did not exist in glaucoma the slightest pressure would produce it, and Graefe regarded it as a pathognomonic sign of the disease. All these conditions characterized the disease in an unmistakable manner, and pointed to the mode of treatment which Graefe had recommended. The practice at Moorfields had fully borne out the results which Graefe had announced at the recent Brussels Congress—namely, that by excising a portion of the iris in a particular way, in acute or chronic glaucoma (particularly the former) there was almost from the first a diminution of pressure, followed by an abatement of the symptoms, and an improvement of the vision, even when under great pressure it had been abolished for a time. Graefe had shown that the loss of vision in the condition of early glaucoma was not the result of any change primarily occurring in the retina, but of a pressure of the vessels, and that if such pressure was removed the retina regained its power, just as by compression within the head the brain might lose its functions for a time, and regain them when the pressure was removed. A rather interesting analogy was then shown by the ophthalmoscopic exploration of the eye in glaucoma—an analogy between the condition of the eye under such circumstances and the condition of the head in cases of internal pressure. The sclerotica, when tense, was just as effectual a source of counter-pressure upon the bloodvessels as the cranial walls could be; and he thought it probable that if the cranium had its contents suddenly increased by an additional afflux of blood the arteries would, if they could be seen, be found to be like those of the retina, in a state of pulsation.

Mr. CRITCHETT said that the chief point of value in the paper was that the ophthalmoscope and microscope were seen to be beautifully illustrative and confirmatory of each other; and in that respect he thought Englishmen were in advance of the continent, however they might be behind the Germans in some other matters. He had no doubt that M. Graefe and others who had noticed certain points in reference to the appearances with the ophthalmoscope, would be interested in knowing that those points were illustrated and confirmed by microscopic observations. Where the globe had been the seat of serious disease, and was destroyed as an organ, remaining only as a source of irritation, and threatening by its sympathy with the other eye to implicate

that organ also, the best practice was to remove the globe; and the introduction and carrying out of that principle had enabled the author to make a step in advance of the continent. All who had used the ophthalmoscope must have constantly felt the difficulty of interpreting the phenomena observed, which had been accordingly differently interpreted by different observers; but the mode of practice to which he had referred had led to a more accurate examination, and thus a most important advance had been made in reference to the scientific investigation of ophthalmic disease. The author had been one of the first to lead the way in that special form of investigation, and he looked forward with confident anticipations to the result.

Mr. HAYNES WALTON said that he and his colleagues had long recognized, and were among the first to point out the sympathetic irritation of the eyeball, and the advantages to be derived from the removal of a globe thus in danger of affecting the other. Extirpation, he believed, was the plan usually adopted at Moorfields, but the same result might often be obtained by removing a portion of the eyeball, so that a stump of the eye remained, which was better than nothing, and more adapted for an artificial eye. It was said that the patient did not recover so quickly as after extirpation, and that he fully admitted. It was also alleged that troublesome bleeding might ensue; but if the operation was performed quickly, and the parts were covered with lint or cotton wool, and a slight compress applied, the hemorrhage would almost always be checked and the recovery facilitated. He would, however, extirpate the eyeball when it was very much disorganized, where there had been a great deal of suffering in staphyloma, and where the sclerotica was much enlarged. The author's paper, he believed, rendered obsolete nearly everything previously written on glaucoma. He wished to bear testimony to the value of the ophthalmoscope, the application of which he found more and more useful and easy. A man applied to him a few days ago stating that he had become suddenly blind while at work. By the use of the ophthalmoscope he (Mr. Walton) at once discovered the effusion (between the choroid and the retina), which fully accounted for all the symptoms. Formerly the case would have proved very perplexing, and been probably attributed to cerebral derangement.

Mr. BOWMAN said that the system of extirpation was not always adopted at Moorfields. When the disease was confined to the front, the posterior part being comparatively healthy and not gorged with blood, a portion of the globe might be abscised; but if the disease was chiefly behind, and there was an enlarged condition of the vessels of the deeper tunics, excision he believed was best for the patient, and afforded the most rapid means of cure.—*Med. Times and Gaz.*, Jan. 23, 1858.

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55. *Vascular Tumour of the Orbit of many Years' Standing, and latterly Producing Threatening Symptoms, successfully treated by the Injection of Tannic Acid.*—Mr. HAYNES WALTON read before the Royal Medical and Chirurgical Society the following case of this character. A lady, 20 years of age, was sent to Mr. Walton by Mr. Square, of Plymouth, in 1856, on account of a vascular growth in the left orbit. The eyeball was prominent, and turned slightly upwards and outwards, restricted in motion, and incapable of being directed inwards. The lower eyelid bulged, and was slightly discoloured, especially towards the nose. By turning down the tarsal margin, there was exposed a growth, having the appearance of a congeries of veins attached to the eyeball, and which was evidently only a part of a larger mass. Pressure emptied it, the act producing pain, and redistension took place very slowly. The chief subjective symptoms were, pain on the slightest exertion, and in extremes of temperature and during the catamenia; inability to lie down, in consequence of unpleasant sensations in the orbit and head; vision nearly extinct. The affection was congenital. Very soon after birth, slight swelling of the lower eyelid was discovered. At the age of thirteen it attracted attention generally, and besides being larger, there was a bluish tint of the integument. Reading or writing for some hours always caused temporary enlargement, and heightened the colour. Mr. Walton diagnosed the tumour to consist chiefly of dilated and

tortuous veins, and came to the conclusion that it was limited to the anterior and inner part of the orbit, and did not pass posteriorly. He resolved to treat it by the method of injection, and sought for an agent which might be safely used. Some experiments with the perchloride of iron caused him to reject it as unsuitable, from the tendency of the free acid which it contains to produce sloughing, or at least severe local action—a result to be avoided in such a situation. Ultimately, he determined to employ tannic acid, as an agent not possessing caustic properties, and one readily producing coagulation of the blood. A strong solution of this substance was thrown in with a syringe. There was rapid cessation of the hemorrhage which followed the preliminary puncture, and the solidity of the tumour showed the extent of the coagulating action. Considerable swelling of the eyelid and chemosis of the conjunctiva ensued, accompanied with local pain and slight constitutional disturbance, but this was of short duration. A slight incision deemed necessary in the tumour was in a day or two followed by a dark brown discharge. Later an abscess formed under the lower eyelid, and was evacuated by an external incision. The eyelid was long paralyzed, but ultimately the movement completely returned. The discharge from the tumour continued for many weeks, varying in quantity, and several times pain and local irritation preceded the escape of fibrinous clots; and twice a small cretaceous mass was discharged. When the patient left town, just three months after the commencement of the treatment, there was no longer any secretion from the seat of the disease or the abscess, and all trace of the tumour had long disappeared. The eyeball had fallen back nearly to the natural plane, although all its movements were not perfect. It could be directed downwards and outwards naturally, but not turned fully inwards, nor could it be raised to more than half its proper extent.—*Med. Times and Gaz.*, Feb. 6, 1858.

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56. *Nævi on the Eyelids cured by Perchloride of Iron.*—Mr. Hulke has, during the last year, seen four cases of venous nævi on the eyelids, three of which were treated with perchloride of iron, not in the way of an injection, but by dipping a piece of silk in the solution, and passing it through as a seton. A little suppuration was excited in the track of the thread, but on the second or third day the whole growth became solid, and no unpleasant effects were produced.—*Ibid.*

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57. *Dislocation of the Crystalline Lens.*—Mr. White Cooper relates (*Med. Times and Gaz.*, Jan. 2 and 9, 1858) some very interesting cases of this accident, and lays down the following rules for the treatment of these cases.

"When an opaque lens lies in the anterior chamber, it can only be regarded in the light of a foreign body, and the safest course will be to extract it. Instances have been mentioned where little irritation has been caused, but these are exceptional, and it must be borne in mind that inflammation may be lighted up at any moment—the vibration of a railway, the shaking of horse exercise, or a multitude of other circumstances, may give rise to it. According to my experience the operation of extraction in such cases is attended with little risk, and by its performance the eye is relieved from a great and constantly impending peril. Undoubtedly the consent of the patient may be withheld, and then we can only adopt palliative measures if inflammation exists, or precautionary measures if the patient has the good fortune to escape it. If the patient be very young—and Mr. Walton mentions a case of dislocated lens in an infant of three months old—absorption may take place without the necessity for an operation.

"In proceeding to extract opaque lenses, I give the preference to the lower section; this enables the lens to escape at once if free, or if adherent to the iris, the connection can be separated with facility. We should remember, when dealing with a spontaneously displaced lens (especially if the lens be osseous), that the vitreous humour is almost certainly fluid, and that, therefore, the gentlest handling will be necessary. If the hard lens is behind the iris and attached to it, the pupil will probably be so rigid as to make it exceedingly difficult for the lens to pass through; under these circumstances it is far

better to slit the margin of the pupil with a pair of scissors, and so to enlarge it, than to endeavour to force the lens out; for the vitreous humour will escape, though the lens will not, and so the globe may be emptied to a serious extent.

"Though not an advocate for the use of chloroform in ordinary extractions, I consider it of the greatest value when dislocated and osseous lenses have to be removed. Adhesions may exist; the operation is then necessarily prolonged, and requires extreme care and delicacy in the performance. Without chloroform the eye becomes restless and irritable, retreating from every touch, while the lids spasmodically close. The anæsthetic, then, is a great boon to the operator, and a still greater to the patient, sparing much suffering while under the surgeon's hands, warding off secondary neuralgic pain and irritation, and thereby hastening convalescence."

MIDWIFERY.

58. *Reciprocal Sympathies between the Uterus and Bladder in Women.*—Dr. W. T. Montgomery read before the Medical Association of the College of Physicians, a very interesting paper on this subject. The reciprocal sympathy between the uterus and bladder is familiar to every practitioner. This is constantly exemplified, Dr. Montgomery observes, in the increased urinary irritation so often accompanying ordinary healthy menstruation, and still more remarkably, when the latter function happens to be painfully performed. Again, in early pregnancy, the same thing is observed; and the remark is trite, that morbid actions in the uterus, whether benign or otherwise, often have the earliest announcement of their invasion, in symptoms of disturbance first noticed in the functions of the bladder.

Thus, congestion or slight ulceration of the cervix uteri, and still more strikingly, malignant affections of that part, frequently excite, in the first instance, in the patient's mind, only apprehensions of gravel, or some vesical disease, for which alone she is induced to seek advice; but woe betide us, in this and many other circumstances, if we let ourselves be beguiled into the belief that because a particular organ or locality is affected with certain anomalous symptoms, it is therefore the seat of some disease, of which these symptoms are to be taken as indications; and so prescribe. Could we, for instance, expect to cure the itching of the nose and angle of the eye which accompanies the presence of intestinal worms, by applications to the Schneiderian, or conjunctival membrane?

Mrs. C. had, for a long time, intense, intolerable, distracting itching of the perineum and anus, which really rendered her life miserable, and for which she had consulted many, and used a multiplicity of remedies; many of them, no doubt, very appropriate for *pruritus*, but *not for her*. When she came under my care, I also, at first, adopted the wrong course; I prescribed *for the symptom*, and *not for its cause*. But fortunately, after seeing her a few times, something led me to suspect the existence of intestinal worms. I gave her a dose of the Kousso, which caused the expulsion of some very large lumbrici, and all her troubles were forthwith at an end.

Mrs. M. consulted me for pruritus of the pudendum, from which she suffered to such a degree, and it was accompanied with other symptoms of so distressing a kind, that she declared she loathed herself, and felt her life an intolerable burthen to her. She had used gallons of lotions, and all sorts of ointments, without the slightest relief. Examination showed an intense congestion of the cervix uteri; this was made the object of treatment, and on its removal, the pruritus and all its miserable concomitants totally ceased.

I have already called the consent between the uterus and bladder, a reciprocal sympathy, because it equally acts in the reverse direction, irritations of the bladder being frequently found to influence and disturb the functions of the uterus—a fact which should not be forgotten in practice, and especially in the

treatment of the diseases of pregnancy, when the administration of the more irritating diuretics should be avoided, lest they should excite contraction of the fibres of the uterus, and so induce premature expulsion of its contents. That they are capable of so doing is, unfortunately, popularly known, and advantage is taken of such knowledge for base and wicked purposes.

And again, we must remember that vesical disturbances may produce a group of symptoms so closely resembling those arising from disease of the uterus, as to be mistaken for them.

Several years ago, there occurred in this city, a case forcibly illustrative of this, and which excited no small sensation. The wife of a general officer, at that time holding the highest military command in this country, began to complain of distressing symptoms, having all the characters of those produced by uterine disease. Such was her own conviction, and on her consulting an accoucheur, then in large and high practice, her worst fears were confirmed; he pronounced the affection to be cancer uteri, and could only promise palliation. But she had many anxious friends, whose happy privilege it is always to hope for the best, and some of them urged upon her the necessity of having another opinion; to this, she at last consented, and the gentleman called in, pronounced the case to be one of stone in the bladder; the stone was extracted, and the lady passed at once from a state of pain and misery to one of comfort and happiness.

A few years since, a patient came to consult me, stating that, to gratify her friends, she had come to town for my advice, although quite aware that she could not be cured. She also handed me a written statement of her case, which set forth that she had had seven labours of terrible severity, owing to contracted pelvis, always requiring instrumental delivery; that for some months she had exhibited unequivocal symptoms of the existence of cancer uteri; and I confess that, from this account, and the woman's own description of her symptoms, I thought there was little room for doubt as to the nature of her malady. However, I of course gave no opinion, and suspended my judgment until I should have instituted a careful examination; on doing so, I could discover no disease of the uterus, but the neck of the bladder was distended, and felt very hard. I passed a sound into it, which at once struck against a stone of considerable size. Mr. Fleming now saw the case with me; the stone was removed, and the woman soon returned home well, and continued so.

There are, Dr. M. states, four forms of disturbance of the bladder which are not unfrequently produced by parturition, even when that process is easy and natural:—

1st. Irritability, causing an inconveniently frequent desire to discharge its contents; and this with a certain amount of pain.

2d. Loss of expulsive power; the natural sensibility being unaffected.

3d. Total loss of the natural sensibility, or irritability, which prompts to the evacuation of the contents of the organ.

4th. A peculiar form of hysterical retention.

The first two of these states require little more than to be glanced at; the third and fourth demand a somewhat more particular consideration.

1st. The irritability of the bladder which succeeds labour, almost always yields readily to soothing measures, such as warm anodyne fomentations, a linseed meal poultice, opiate and camphorated embrocations, an opiate suppository in the rectum, or the administration of the mist. camphoræ c. magnesiâ, with tincture of hyoscyamus and syrup of poppy. Should there be reason for suspecting inflammation, it may be necessary to apply a few leeches, and use other appropriate remedies; but this is rarely the case.

2d. When the expulsive power is in abeyance, but the natural sensitive irritability remains unimpaired, the desire to evacuate the contents of the organ becomes distressingly urgent, in proportion to the amount of accumulation within it.

This condition is sometimes produced by pressure from the uterus happening to be larger or lower than usual, perhaps displaced, or from the presence of an uterine tumour, in which case, raising up the obstacle may remove all difficulty. Sometimes, merely permitting the patient to assume the sitting

position may suffice. Should these plans not succeed, the introduction of the catheter gives the desired relief.

3d. Again, there is the third and most important variety, in which there is no irritability, not even the natural desire to evacuate the urine, nor sensation, nor consciousness of requiring to do so, although a large accumulation is taking place, which will soon produce symptoms, not alone very distressing in themselves, but what is worse, conditions which may lead us greatly astray, and excite groundless apprehensions of great impending danger; and it will not lighten our discomfort, should it turn out, as has often happened, that the patient owes all her annoyance to our inadvertence, or to the carelessness of the nursetender; for if we are careful in making the requisite inquiries, and give the proper directions to the nurse, and she attend to them, the accident, of which I am about to speak, *could not happen.*

The first time I remember to have had my attention drawn to this condition was in the year 1832, and in the case of an esteemed medical friend's wife; who was delivered of her first child after a natural labour of fifteen hours, presenting nothing unusual, if we except the most tremendous rigor I ever witnessed, which occurred shortly after delivery, and was so violent that I really thought it must have ended in convulsions; but simple means removed it, and she went on well. Before leaving her, I cautioned the nurse to encourage the lady to pass water in the course of the evening, as she had not done so for several hours; this, however, was neglected, as the lady neither expressed, nor felt any want; and at my next visit I found my patient very feverish, with headache; a pulse above 120; the belly tumid and tender to the touch. Before proceeding to introduce the catheter, of which she had a great horror, I advised her trying to pass water, which she did, to the amount of at least two quarts, with instant relief to all the symptoms. Her convalescence was uninterrupted.

At a time when there were occurring several cases of puerperal fever through town, a medical friend called on me to request that I would accompany him to visit a patient of his, who had been confined two days previously, after a severe and protracted labour. She was not going on well, and he thought he had to deal with a case of the above-mentioned formidable disease, as his patient was very feverish, had most distressing headache, a rapid pulse, with abdominal pain, swelling and tenderness. On seeing her, I thought the presence of a large quantity of fluid was beyond doubt; a catheter was introduced, and an enormous accumulation of urine withdrawn, with immediate and decided relief to all the symptoms. It was then ascertained, that she had not passed water since her confinement, nor for many hours before it; she recovered perfectly.

The next case occurred to me under circumstances which invested it with a very unusual interest, and caused it to make a great impression on me. I happened to be staying for a few days in a very fashionable watering-place in England, where there resided a family of great wealth and consideration in society; the eldest son of which, had married a lady of large fortune and high connection. This lady had recently been confined of her first child; and, as may be readily supposed, the attendance upon her had been a matter of warm ambition among the local practitioners; and the gentleman who carried off the prize was, I fancy, more envied than congratulated by his *confrères.*

I met this gentleman accidentally in society, and the following morning he called on me in a state of painful agitation and distress; "I am," he said, "in a terrible dilemma, and fear I am a ruined man." He then proceeded to tell me that he had attended Mrs. —— three days before; that she had rather a severe labour, and that at the end of thirty hours, finding the labour not likely to terminate by the natural efforts, the head having remained stationary for several hours, low down in the pelvis, and pressed strongly against its floor, he had delivered her with the forceps, without, as he assured me, any difficulty whatever. All then seemed well, but next day the lady was uncomfortable, restless, feverish, and rather larger than she ought to be, and this state went on increasing until the third or fourth day, when to his horror, the urine began to trickle away incessantly, and a slough about the size of a sixpence was discharged from the vagina. He at once, naturally enough, concluded that a

vesical fistula was established; and I, taking his account as my guide, thought there was but little doubt that his worst apprehensions would be realized.

At his urgent request I accompanied him to visit the lady, whom I found with a hot skin, much headache, a very quick pulse, a very distended abdomen, which was moreover so tender that she could hardly bear it to be touched; but I distinctly ascertained the presence of fluid. On examining *per vaginam*, I could not detect by the finger any breach of surface along the anterior wall, or back of the bladder, and I suggested to Mr. —— that it would be well to pass a catheter into the bladder; which, at his request I did; and gave exit to a quantity of urine, sufficient nearly to fill an ordinary wash-hand basin. Subsidence of the abdominal swelling immediately took place, the lady felt inexpressible relief, and from this day went on well.

The truth was, that the bladder had been forgotten by all the parties concerned; and the patient had never passed water since her confinement, nor felt a desire to do so; until at last the bladder became so distended that the resistance at its neck was overcome, and the urine leaked out at the front, as fast as it was pumped in from the ureters at the back; and it so happened that just as this began, a small slough had separated from the mucous membrane of the posterior wall of the vagina, which had been strongly pressed on by the head for several hours.

4th. Another state, not exactly ranging under any of the former kinds, seems to be of a purely nervous or hysterical character, and mixed up with a certain amount of *mauvaise honte*. The patient has a decided desire to pass water, and suffers distress from its retention; but has at the same time, the greatest reluctance to make the necessary effort, and *positively refuses to try, if any one, even the nursetender, is present*, declaring that it would be impossible for her to succeed.

Under those circumstances, suitable arrangements should be made by the nurse, and the patient then left by herself for a time, during which she may succeed in accomplishing the desired object; if she does not, some anti-nervous medicine should be given, with strong assurances of its potency in removing such difficulties; let her try again during our absence, and if she has not succeeded when we come to pay our next visit, we must declare that longer delay would be unsafe, that we will wait a little while in the drawing-room, and if she does not then succeed, that we must draw off the water before we leave the house; this generally insures success.

In many of these cases they do not succeed, because they do not make the proper effort; and this, I believe, is oftentimes simply because they cannot, and not always because they *do not choose;* this state of nervous inability ought to meet with much tender consideration. I may observe here, that I have never met with this peculiar form of affection, except in the higher grades of society, and almost always in women of a highly sensitive nervous temperament, some of them having experienced a similar difficulty before marriage, and also under ordinary circumstances distinct from pregnancy.

Now, is this state which I have just been attempting to describe, analogous to, or identical with another, which I have a few times met with in practice, and which may be thus described: A lady in perfect health retires to her bedroom for the night, and before lying down to rest attempts to make water, and finds she cannot—she is much surprised—goes to bed, and perhaps falls asleep; in the morning she is in great distress, but still unable to empty the bladder, and now her pain is so great, she is compelled to seek for assistance—the catheter is introduced and all her trouble is at an end; or, perhaps, for several days its use continues to be required, and then all goes on as well as ever; but in either case, no circumstance of general ill-health, or local derangement or displacement can be discovered. The woman, in fact, is otherwise quite well.

The year before last a married lady of a highly nervous temperament, so affected, drove six miles into town to my house, in great torture: I drew off the water, and she required no further assistance.

Last year I was urgently summoned to see an equally nervous maiden lady similarly situated; on laying my hand on the abdomen I felt a tumour, as large as a melon, and as hard as a cricket ball; and *per vaginam*, it really, at first,

suggested the idea of a fibrous tumour of the uterus, this organ being quite displaced. I introduced the catheter, drew off a large accumulation of urine, and the abdominal tumour—which was nothing more than the distended bladder—at once disappeared. The feature in this case which particularly arrested my attention, was the extraordinary hardness and the distinct outline of the abdominal tumour, which would readily have caused it to be mistaken for a solid morbid growth.

I may here observe, that in the well-known case of the virgin mock prophetess, Joanna Southcott, there was felt, by competent judges, a circumscribed tumour in the abdomen, which was supposed to be the gravid uterus. Dr. Reece, in his published history of the case says: "In that part occupied by the womb, there was a firm circumscribed tumour as large as a man's head, bearing the shape of the womb; I have no doubt of its being an enlargement of that organ." But when she died no tumour existed, and that which was felt during life was attributed to the prophetess having learned to retain the urine until the bladder became considerably distended; which seems highly probable.

In my case last related, it was necessary to relieve the lady every day for a week; when she perfectly regained the power of micturition. I may just mention, that the remedy which seemed to remove her inability was the ergot of rye; did it do so by stimulating the fibres of the uterus in the first instance, and then by consent, those of the bladder? Perhaps so; but as the same agent has produced a similar effect in men, a direct influence may be equally admitted.—*Dublin Hospital Gazette*, Dec. 1, 1857.

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59. *On Coagula formed in the Veins during the Puerperal State, and their occasional Transportation into the Pulmonary Artery.*—Dr. Graily Hewitt read before the Harveian Society (Dec. 3d, 1857) an interesting paper on this subject. "The painfully sudden death of a lady, a member of the late royal family of France, which, according to the accounts given in the public prints, was caused by the passage of a clot of blood into the pulmonary artery, had been, the author remarked, the subject of much interest. He proposed to call the attention of the Society to some observations suggested by the contemplation of the case in question.

"The various morbid appearances presented by the veins and their contents in cases described as 'phlebitis' have been always objects of much interest, and up to within a very recent period were taken as evidence of the existence of inflammatory action in those vessels. The author considered that the researches of Virchow conclusively proved that the appearances in question were due to the formation of coagula in the veins, and the subsequent transformations through which these coagula had passed. According to the views of Virchow, the study of the changes spoken of as phlebitis was in reality the study of the 'thrombus,' as the coagulum is termed, and of its metamorphoses.

"In applying these views to the consideration of those cases of diseases of the veins which are apt to occur after childbirth, and taking with Virchow the starting point to be the formation of the coagulum, it was necessary to inquire what are the circumstances which may lead to, or favour the formation of coagula in the veins during the puerperal state? Amongst these were enumerated:—

"1. The large amount of fibrin in the blood, both positively and relatively, during pregnancy, a condition predisposing to coagulation; and possibly also certain other morbid conditions of this fluid, as uræmia, &c.

"2. The mechanical effects of the presence of the uterine tumour, which, leading to congestion of certain parts—the vagina, rectum, lower extremities, etc.—might favour coagulation; also, the impediment to the descent of the diaphragm leading to distension of the right heart, and other parts of the venous system.

"3. Pressure, unusual in amount or duration, on the large venous trunks in the abdomen, produced by the head of the fœtus in its passage into the pelvis; the head being too large, or the passage contracted.

"4. Deficient contraction of the uterus, and of the large venous plexuses situated near it (Virchow), after delivery.

"5. The most important, perhaps—the presence of the 'physiological coagula,' as they may be termed, which close up the uterine veins at the point of attachment of the placenta, and which must extend a variable distance, and have a variable size, according to the degree of uterine contraction.

"6. The morbid conditions of the blood liable to be produced after delivery, owing to the occurrence of hemorrhages and other causes.

"A description was then given of the morbid appearances usually observed in the veins after childbirth. Affections of the veins generally occurred in cases where some of the causes just alluded to as leading to coagulation had been present. In most of these cases the veins first affected were those leading from the uterus and ovaries; the coagulation begins in the veins of these parts, and travels onwards towards the heart. The coagulum always terminates, according to Virchow (whose description is in conformity with those of Dr. Robert Lee and others on this point), in a rounded extremity, which projects a little beyond the next entering vessel, and by further deposition of fibrin, the clot extends. The coagulum also travels backwards, occluding after a time the veins which enter an already blocked-up trunk. The iliac, femoral, and other veins of one or both sides may thus become occluded, by a coagulum extending from the uterine veins of the same side, producing at this stage the disease called 'phlegmasia alba dolens.' The 'physiological' coagula may thus give rise to coagula of a pathological character, other circumstances favouring the production of the latter being present; or, certain states of the uterine surface following delivery may occasion a like issue of the case. The clot, once formed, undergoes two kinds of change. It shrinks, becomes decolorigiæ, adherent, and with the vein is reduced to a cord-like substance (adhesive phlebitis); or it softens, breaks down, and the result is the formation of a fluid in many respects resembling pus (suppurative phlebitis). The outer non-softened portions of the clot in the latter case remain as false membranes adhesive to the normal walls. The attractions of the veins to the puerperal state are only peculiar in respect of their causes; the coagula once formed, are liable to the same kinds of transformation as in other cases. The observations of Virchow respecting the constant presence of the 'continued coagulum' are of especial interest in relation to the occasional passage of portions of altered coagula into the pulmonary artery. This continued portion projecting into the still patent vessel, undergoes, but more rapidly under certain circumstances than the other parts, the 'thrombus metamorphosis.' It becomes adherent to one side of the vessel, and the projecting part may, at a certain stage of its metamorphosis, be broken off and carried away by the blood-current into the pulmonary artery. Death more or less sudden, and attended, according to Virchow, with symptoms of a peculiar asphyxia, followed the passage of these altered coagula into this vessel or its branches. Dr. Simpson has collected nine cases in which death, more or less suddenly, occurred a few days after delivery, apparently brought about by the obstruction of the pulmonary artery, by transformed coagula introduced from the veins. Probably death more often occurs from this cause than is generally imagined, the cause being overlooked. Lastly, the author was of opinion that the pulmonary artery might be occluded by clots, liable to be formed in puerperal women reduced by hemorrhage, etc., these coagula not having existed as such for a sufficient time to have undergone the transformation previously alluded to, and not having been formed quite in the same way. These clots, at first perhaps small, would increase rapidly by further accretion of fibrin around them, and forcibly obstruct the pulmonary arteries to such a degree as to produce death."—*Med. Times and Gaz.*, Dec. 12, 1857.

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60. *On the Membrana Decidua which surrounds the Ovum in Cases of Tubal Gestation.*—Dr. Robert Lee read a paper on the subject before the Royal Medical and Chirurgical Society, January 26, 1858. He commenced by citing the various authorities to prove that the common opinion from the days of William Hunter to the present time was that the decidua, or outer surface of the secundines, belong to the uterus, and not to the ovary, or that part of the conception that is brought down from the ovary; and that in cases of extra-uterine pregnancy, a deciduous membrane was still to be found in the cavity

of the uterus. But a case is recorded in the seventh volume of the *Medico-Chirurgical Transactions*, in which the uterus is stated to have been "considerably larger than we observe that organ to be in the unimpregnated state, even in women who have borne several children. On laying it open, the uterine vessels were observed to be very large but empty, and there was a great quantity of gelatinous matter in the cavity and neck of the uterus. When this was washed off, the internal surface of the viscus looked very vascular, having been highly injected; but there was not the least appearance of a decidua." A second case is recorded in the seventeenth volume of the *Medico-Chirurgical Transactions*, in which the author himself was surprised at finding that "no organized deciduous membrane lined the cavity of the uterus, but the whole of it was coated with a thin layer of albumen." This case occurred in 1829, and the preparation was placed on the table of the Society in 1832; but until 1836, when another example of tubal gestation came under his observation, it does not appear that he made any attempt to determine whether the ovum in the Fallopian tube was surrounded by decidua. The two preparations were then examined together, and a description of the appearances observed was published in the *Medical Gazette* for 1839–40. These cases, with four others which have subsequently come under his observation, are the subject of the present communication. In Case 1, on opening the tube, and examining the different parts of the ovum, he found a deciduous membrane everywhere surrounding the chorion, and closely adhering to the inner surface of the tube, as the decidua usually does to the lining membrane of the uterus. Within the decidua, the chorion, amnion, and embryo were distinctly seen. The uterus was larger than natural, and there was no appearance of decidua lining its internal membrane. In Case 2, on carefully examining the ovum contained in the right Fallopian tube, it was evident that a deciduous membrane everywhere surrounded the chorion, and adhered to the inner surface of the tube. The placenta, which was situated at the extremity of the ovum nearest the uterus, was seen covered with the decidua, and coagula of the fibrine of the blood were traced from the interstices of the placenta through the decidua into veins in the thickened muscular coat of the tube. The uterus was considerably enlarged, and its inner surface was coated with a very thick layer of yellowish-white soft substance. There was no trace of any arterial or venous canal in this cavity. In the third case, the fœtus had reached the age of six months, and was contained in a cyst which adhered to the omentum and intestines and to the surface of the uterus, and contained a great quantity of thin, fluid-like pus. The walls of the uterus were healthy, and the cavity empty. There was no decidua or substance of any kind coating its inner surface, but a decidua was attached to the placenta in the usual manner. In Case 4, the greater part of the ovum had been removed, but still the decidua reflexa could be very distinctly seen covering a considerable portion of the villi of the chorion. In the uterus was found a coating of considerable thickness, and of a yellowish-white colour, in which neither arteries nor veins could be traced. Case 5 is also one in which only a portion of the decidua was found in the tube. In Case 6, the substance lining the cavity of the uterus resembled the fibrine of the blood, and was of a red colour at its upper part; where it had been detached from the surface of the uterus, the lining membrane presented a perfectly natural appearance. The embryo was inclosed in the amnion, with the vesicula umbilicalis remarkably large. The cells of the placenta and the villi of the chorion were distended with coagulated blood, and surrounded by deciduous membrane. By a careful dissection subsequently made, the decidua was found to consist of placental decidua, decidua vera and reflexa, with a decidual cavity. An enumeration of the preparations in St. Bartholomew's and Guy's Hospital museums is appended, illustrating the pathology of Fallopian tube conception. In the former there are five examples, and in one of these the museum catalogue states that "the outermost membrane inclosing the fœtus has all the character of decidua. Besides this membrane, the amnion and chorion are distinct; the fœtus and umbilical cord are also perfect." In the opinion of the author, there can be no doubt that a decidua surrounds the ovum; and though none of the other preparations have been dissected with the view of ascertaining the point,

yet in all the separation of the ovum from the inner surface of the tube has been carried to an extent sufficient to enable us to demonstrate the fact. There are thirteen preparations in Guy's Hospital museum. The author was permitted by Dr. Wilks, the conservator of the museum, to make a minute examination of the ovum in one of these, which had escaped entire through a rent in the Fallopian tube. He had the satisfaction not only to discover the vesicula umbilicalis, but to see the chorion completely surrounded by decidua, as in the case described at the early part of this communication. There can be no doubt that if the ova in these preparations were submitted to a similar examination, a decidua would be found in all, surrounding the ovum in the Fallopian tube. He did not wish to express an opinion on the nature of the membrane or substance found coating the inner surface of the uterus in the greater number of these preparations, which has been almost universally considered to be decidua since the days of Dr. William Hunter, although no bloodvessels in it have been discovered. His great object was to demonstrate the existence of a decidua around the ovum in cases of tubal gestation.

Dr. JOHN CLARKE called the attention of the Society to one of the preparations of Fallopian tube gestation laid upon the table. The uterus, he said, was laid open, exhibiting, as he thought, a true deciduous membrane; not the membrane that was thought formerly to be formed by lymph poured out, but (as understood of late years) the inner membrane lining the uterus, and presenting a peculiar tubular appearance. In the neck of the uterus there was the usual secretion in the glands. It was quite clear that in the Fallopian tube there was no appearance of a strictly speaking deciduous membrane; there was nothing but the fœtus, the amnion and chorion lying against the inner coat of the tube. He did not venture to state, however, that in no case was a deciduous membrane formed round the ovum in Fallopian tube gestation; but he regarded the cases in which there was such a membrane as indicating an effort of nature to accommodate the part to a new function, which it was not originally intended to perform. The ovum had escaped from the ovarium, and lodged in the tube. Nature did not set up the inflammation, as in cases where foreign bodies existed; for this was not, strictly speaking, a foreign body, but a living body, intended by nature to be matured and brought into the world, and she accommodated, as far as possible, the tube to the purposes of the uterus; and accordingly there was a certain membrane thrown out somewhat resembling a deciduous membrane, but, as appeared upon close microscopical observation, totally differing from the decidua in the uterus, having, however, certainly the function for a short time of sustaining the life of the ovum. The preparations exhibited did not appear to him (Dr. Clarke) to support the views of the author, since in almost all of them there was a deciduous membrane in the uterus, whether called lymph or shreds; and in those cases where it was not found the uterus was large, and there was some statement of uterine action, followed by the discharge of a membrane or fluid; and it was but reasonable to suppose that in those cases the deciduous membrane might have escaped.—*Med. Times and Gaz.*, Feb. 6, 1858.

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61. *Extra-Uterine Gestation.*—A case of this nature, dating thirty-three months from its commencement, and terminating in abdominal fistulæ, and the extraction of the remains of the fœtus, is reported by Dr. DIAMANTAPUPLOS. She was seventeen years of age: commenced to menstruate at twelve years and nine months; was married at thirteen years; and aborted with her first conception in May, 1853. She menstruated regularly afterwards until December 15th. About the presumed epoch of the present conception, she received a blow on the lower belly.

During the first three months, she had nausea and vomiting: a little later she perceived the motion of the child, which, with the secretion of colostrum, continued until the normal term expired. At the sixth month, she had violent pains at the lower part of the abdomen, which were completely removed by a copious bleeding.

At nine months after fainting, labour pains commenced and continued for

four days. She had milk fever; and the secretion of milk continued, alternating for three months, with an offensive whitish uterine discharge.

She continued under treatment with diuretics and bandaging, her general health being pretty good, save a slight attack of mild typhoid fever, at about the eighteenth month.

She was examined in May, 1855; and, in addition to evident fluctuation, a tumour was found, which gave the sensation of the head of a fœtus. Ballottement was manifest; the uterus appeared retroverted.

About August, 1855, after a violent abdominal erysipelas, two fistulæ were established at the umbilicus, discharging a sanious liquid: at six months from this date, hair came away with the discharge.

In February, 1856, she suffered from diarrhœa, indigestion, intestinal hemorrhage, extreme emaciation, hectic fever, &c. &c. The cavity of the tumour was now explored most carefully, and the situation of the bones of the head, their size, and the limits of the adhesions of the wells of the cyst to the abdominal parietes, carefully made out.

On the 25th of September, 1856, the patient was operated on under the influence of chloroform, in the following manner: A crucial incision was made from the centre of the fistulous opening; and first one parietal, then the other, was extracted; afterwards, the two frontal, the occipital, the left temporal, and lastly, the maxillaries; then many bones of the trunk, putrefied: the cyst was then well washed out with water. After some short time she completely recovered, the menses reappearing towards December, 1856.—*Midland Quarterly Journ. Med. Sci.*, Jan. 1858, from *Gaz. Médicale d' Orient*, June, 1857.

62. *Ruptured Uterus.*—Mr. Dillon Kelly records (*Dublin Hosp. Gaz.*, Jan. 15, 1858), a case of this, the chief point of interest in which was the enormous size of the rent in the uterus, through which the free margin of the liver and a mass of small intestine found entrance into the cavity of this organ.

63. *Intra-Uterine Fractures.*—An excellent paper on this subject, written with a true philosophic spirit, was read by Dr. Herbert Barker, before the South Midland Branch of the British Medical Association. In the case which formed the basis of his communication, no peculiarity of constitution, hereditary or acquired, could be traced to either parents. The mother had borne three healthy children previously, and has since given birth to a fifth, also healthy. During her pregnancy with the subject of the present case, she had a fall down stairs; but, from reflections on the case, Dr. Barker does not connect this event with the fractures as standing in the relation of cause and effect. The child, when born, lived about ten minutes. On examination, no suture lines could be traced, and no bones could be felt through the scalp. The humerus of both sides, and the radius and ulna of both arms were broken, as were both thigh bones, and both tibiæ and fibulæ. On dissection, all the viscera were found to be in a normal and healthy condition; and the peculiarities of the fœtus were confined to its osseous system. The frontal, both parietal, the squamous portion of the ethmoid, and the expanded portion of the occipital bone, were entirely absent. "The shaft of the left humerus bulged out in the middle into a round ossified protuberance, of the size and appearance of a small bullet; above and below, the shaft was suddenly contracted to the diameter of a crow's quill. There was ossification at these points, but the bone was so fragile that it would not bear the slightest manipulation. Just above the protuberance in this constricted portion, there was a distinct fracture, slightly oblique, but complete. The fractured ends were jagged, and could be refitted into each other." The right humerus was similar in appearance to the left, save being fractured in two places; the radius and ulna were fractured in two places; the ulna of the left side had also been fractured, and again united by cartilage. The left femur had a tuberosity in the middle of the shaft: like the humerus, it was obliquely fractured in two places above the tuberosity, and in one place below it; and when the ends of the bone were fitted together, it had a twisted appearance. The right femur was similarly fractured, but without distortion. The shafts of the tibiæ and fibulæ were fractured in several places. One great

fact with regard to the structure of the bones generally, was their extreme fragility, and the well-marked deficiency of inorganic matter. After carefully burning out all the organic matter, Dr. Barker found the relative proportions to be—

Organic matter	66.66
Inorganic matter	33.34
	100.00

Dr. Barker considers the cause of fractures in this case quite compatible with the unusual amount of organic matter, from the fact that the earthy matter was irregularly deposited.

The Doctor then proceeds to consider some analogous cases, as reported by Dr. Moffat, Chaussier, Baudelocque, Arnaud, Carus, Billard, and Dr. Montgomery.

With respect to the cause of these fractures, Dr. Barker thinks, arguing from this case in particular, that the inequality in the deposition of earthy matters, and the disproportion in construction between the organic and the inorganic parts, was the main predisposing cause. In the modulated parts there was an increase of earthy deposit; in the constricted parts the bone was formed, but was too feeble to bear the pressure to which it was subjected.

In the normal state there is more organic and less earthy matter in the fœtal bones: they are, consequently, less liable to fracture than at any subsequent period of life; and especially whilst protected by the mobility of the fœtus in the amniotic liquor. Hence, blows or falls are fortunately comparatively harmless in ordinary circumstances.

Dr. Barker draws two practical deductions from his case. Firstly, with regard to labour; and, secondly, in a medico-legal point of view, cautioning the practitioner never to give evidence with respect to fractures in still, or newly-born children, without having examined all the bones of the body with reference to their physical strength; their osseous development; the presence or absence of certain bones; the presence of previous fracture and reunion; the presence of external injury, and the contour of the bones and limbs generally.

A second case is reported by Mr. Davies, of Pershore, in which the thigh had suffered a compound fracture, the bones overlapping nearly an inch. This was the sole fracture in this case; and the child has since grown to be a man, with arrest of development in the limb, it being now only about a foot long.

A third case, in which a syphilitic taint was present in the mother, who miscarried at seven months, is reported by Mr. Murray. The child lived a few days with the left humerus and left femur fractured: the whole of this side of the body was soft, consisting of loose, unhealthy fat; whereas, the opposite side was in a state of rigidity and atrophy. The state and composition of the bones in this case were not observed.—*Midland Quarterly Journ. Med. Sci.*, Jan. 1858, from *British Med. Journ.*, Oct. 1857.

64. *Report on Cross-Presentations.* By Prof. Spaeth.—Among the 12,523 births which came under Professor Spaeth's observation while he held the post of assistant accoucheur at the General Hospital, Vienna, 93 cross-births occurred. Cross-presentations were also, besides these, very frequently diagnosed in pregnant women with exactitude, which, on the commencement of labour, were converted spontaneously into presentations of the long axis of the body. In primary cross-presentations—*i. e.*, before the rupture of the membranes, the lateral portion of the child's body usually presented—although, in some instances, the back or the abdomen was found turned towards the os uteri. In the latter cases, the extremities were generally found presenting, and in one instance, both the lower extremities and one of the upper were felt within the os, while the axis of the child's trunk lay completely parallel to the transverse diameter of the uterus. In secondary cross-presentations—*i. e.* the waters being discharged—the fœtus, when normally developed, always presented with its shoulder; of 56 exactly indicated cases, in which the lateral part of the body or the shoulder presented, in 39 the back of the child was placed forward (24

times with its pelvic end towards the left side, and 15 times towards the right side), and in 17 it was placed backwards (11 times with its pelvic end to the left, and 6 times to the right side).

The following may be enumerated as causes of cross-presentations:—

1. *Twin births.* Among the 157 instances of those that occurred, the second child was found in the cross position 13 times—therefore 1 in 12. The first child was always found in the long presentation. 2. *Maceration of the child.* Among 176 macerated children, 7—*i. e.* 1 in 25—presented crosswise. 3. *Premature birth.* Of 655 children born between the fifth and ninth month, and not in a macerated condition, 16 presented crosswise—1 in 40. 4. *Placenta prævia.* In 13 cases of this, cross-presentation occurred 3 times. In these 3 cases, the placenta was always so placed as to entirely cover the os uteri, while this was only found to be the case in 1 out of the other 10 cases. 5. *Relaxation of the walls of the uterus.* Scanzoni correctly considers unusual relaxation of the parietes of the uterus as one of the most essential circumstances in the production of cross-positions; and it is on this ground that the more frequent occurrence of the position in women who have borne several children, is to be explained. Thus of the 93 cases in question, only 20 (or, of 52 cases not included in the above categories only 10), were primiparæ. Moreover, in the bulk of the great number of cross positions ascertained to exist during pregnancy, but which were spontaneously converted at the onset of labour into long presentations, presented this condition of relaxation, the rectification taking place apparently because the contractions of commencing labour obliged the hitherto relaxed organ to assume its natural form, thereby removing one cause of the faulty position. 6. *Abundant liq. amnii.* This was also often observed in pregnant women exhibiting cross-position. With the great mobility of the fœtus which exists in such cases, it is quite a matter of chance whether the fœtus, during labour, is not found in the cross-position. Among the 93 cases, such excess of fluid was observed in 10, and certainly occurred yet oftener, in certain of the cases brought to the hospital only after the membranes were broken. 7. *The cordiform shape of the uterus—i. e.* a slight degree of the *uterus bicornis.* This was observed in one case only, but this was an example of the recurrence of the position in three pregnancies. Braun relates a similar case; and there is hardly any doubt that this deformity of the uterus, which is as perceptible after the birth of the child as before its expulsion, is a cause of *habitual* cross-position. 8. *Eventration of the abdominal viscera* was observed in 2 cases by the author—once at the hospital, and once in private practice, the child being at about the seventh month in each case.

The course and treatment of the 93 cases were as follow:—

A. *Spontaneous Turning.*—This occurred in one case, that of a woman, aged 24, pregnant for the second time. At 8 A. M. (11th June), the waters were unexpectedly discharged. The os uteri was found relaxed, and the ribs of the child could be plainly felt through it. On external examination, the back of the child was found to be turned forwards, its pelvic extremity lying nearer to the entrance of the pelvis than its head, which lay towards the right side. The uterus was soft, and slight contractions only occurred at long intervals. The patient was kept lying in bed on her left side, and strong pains only came on in the afternoon of the 13th. Under their influence, the pelvic end of the fœtus passed spontaneously through the os, the uterus assuming its normal, longish-round form. At 5 P. M., the living child was born with ease.

B. *Spontaneous Delivery in Shoulder Presentation.*—This occurred in five instances, and these consisted in a fœtus of five months, one of six, two of seven months, and one at full time. The six months' fœtus, and one of those at seven months, were in a macerated condition, and the others died during labour. The first of these cases, on account of the smallness of the child, was left to itself, while the others only came under observation after repeated unsuccessful efforts at turning had been made. The mechanism was the same in all these cases. The shoulder, under the influence of strong pains, was gradually pressed deeper into the pelvis, while the head advanced more and more forwards from the side of the mother towards which it was turned, until at last it lay exactly over the symphysis pubis. At the same time, the trunk moved towards the sacro-iliac

symphysis on its side, and was, through the pressure excited upon the buttocks by the fundus uteri, forced down the sacral hollow behind the head, so that first the presenting shoulder, then the under part of the thorax, the buttocks, and the feet passed out, and then finally the head was expelled. The complete extrusion of the shoulder, while the head remained at the entrance of the pelvis, was, however, only rendered possible by means of excessive extension of the neck. Two of the mothers suffered from slight peritonitis, but all recovered.

C. *Turning.*—This was effected in 85 cases.

a. *Cephalic turning.*—Besides the very numerous cases of oblique cranial position in which the head deviating to one side or the other, was directed by manipulation into the pelvic entry, this procedure was put into force in six instances of cross-presentation, the manipulation being external in 2, and internal in 4 of the cases. In the two former, the membranes were as yet unruptured, the uterine walls were relaxed, and the pains unfrequent, while the child was sufficiently movable, without the liq. amnii being in excessive quantity. The woman having been laid on her back, one hand was placed above the child's head, and the other beneath its pelvis, and by simultaneous pressure the one was directed towards the aperture of the pelvis, and the other towards the fundus uteri. As soon as the head had somewhat approached the aperture, its further progress was much favoured by laying the woman upon the side corresponding to that towards which it had lain. The children in both these cases were born alive. In the four cases treated by internal manipulation, the membranes were still entire, and the hand corresponding to the side on which the head lay, was, during an interval of the pains, passed sufficiently high between the uterine wall and the head to enable it to seize the head, and draw it towards the pelvic aperture. This manœuvre was assisted by the other hand, placed externally, either pushing the buttocks up towards the fundus, or aiding in thrusting the head downwards. All the children were born living.

b. *Turning by the buttocks* was executed by external manipulation in one instance, the child being born living.

c. *Turning by one or both feet.*—This was performed 78 times under the following different circumstances:—

1. *Prior to the rupture of the membranes* in 39, 10 being examples of twin-births. The author places the woman on her back, with the pelvis somewhat raised, and introduces the hand corresponding to the side to which the child's feet are directed, when this can be ascertained. But before the waters are discharged, it is indifferent to an experienced practitioner which hand he employs. With the exception of two cases, in which hemorrhage from placenta prævia occurred, full dilatation of the os uteri was always waited for; and the membranes were preserved entire, when possible, until the hand had reached the spot where the feet were expected to be found. They were then broken, and where rapid delivery was required, as in placenta prævia, both feet were brought down, otherwise only one. In the latter case, the labour was then left, for self-completion, unless the state of the pulsation of the funis or other dangerous circumstances called for haste. In all cases, however, the delivery of the head had to be assisted, viz: in 37 by manual interference (a modification of Smellie's method), and in 2 by the forceps. In the 37 cases, there were born 28 living (3 being stillborn but soon restored), 4 dead and 5 macerated children. Of the 4 dead children, in 2 the birth had been preceded and accompanied by severe hemorrhage, in one there was eventration, and one had to be extracted from want of pains. Of the two children delivered by the forceps, one was born alive, and the other in a macerated condition. As unfavourable complications, there were two instances of narrow pelvis, and three of placenta prævia.

2. *After the discharge of the liquor amnii.*—These cases were also thirty-nine in number. The operation was rendered much easier by choosing the hand which corresponds to the side of the mother to which the feet are directed, and which, when the waters are discharged, could always be ascertained. In part of the cases it was introducted in the German method, by passing its volar surface over the abdomen of the child to the feet. In others, the French method was adapted, by which the presenting lateral parts are pushed farther away, and the hands carried over the buttocks to the feet. From the former, none of

the ill effects said to result from compression of the funis or abdomen were found to arise. In difficult cases, great are the effects of a proper position of the woman and choice of the hand, together with carefulness and steadiness in its introduction. By observation of these points, the experienced accoucheur will often succeed after many failures on the part of others. Still, there are cases in which the observation of every precaution is not followed by success, as when the uterus becomes so closely bound round the child by continuous, tetanic contraction, as to forbid the passage even of a quill between them. There are cases, too, in which vain attempts at turning have so excited the uterus as to have aroused the most vehement pains, which follow one after the other in rapid succession. Who, in attempting, under such circumstances, to turn the fast-locked fœtus, would not have the terror of rupture of the uterus before his eyes! It is in such cases that chloroform, or a mixture of chloroform and ether, is of unqualified utility, rectification often becoming possible during anæsthesia, when decapitation would be otherwise unavoidable.

Among these 39 cases of secondary cross-positions there were 10 cases in which turning took place *immediately* after the rupture of the membranes. Of these (1). There were 8 *accompanied by unfavourable complications*, viz: 2 with hemorrhage—one child living, the other dying; 3 with prolapse of the funis—2 living and 1 dying; 1 with the induction of premature labour at the end of the 8th month, the child dying; 1 with very rigid genitals in a primipara, the child living; and 1 with a large headed child, which lived. (2). The other 8 cases were *uncomplicated*, and all the children were born living. Altogether, in the 16 cases, 10 of the children were born living, 4 came stillborn (one of these dying), and 2 were born dead. (b). Cases in which turning was performed *within the first half hour* after the rupture of the membranes. These were six in number, in one of which only the child died. (c). Cases in which it took place at a *later period*, either because the patient came late under observation, or that the waters were discharged prior to the commencement of labour. Of these 7 cases, turning was executed in 4 in one hour, in 1 two hours, in 1 five hours, and in 1 twelve hours afterwards. Two of the children died. (d). In 7 cases the *membranes were ruptured before the commencement of the pains*. In these cases, turning was accomplished after 9, 10, 23, 29, 37, and 64 hours, and in one case the exact time was not known, the child being dead when the patient was admitted. Among all these cases, turning was not attended with any difficulty, except in the first one. The cases under (c) and (d) sufficiently prove that nature usually leaves space enough after the discharge of the waters to admit of turning with success, and without much difficulty, providing always that unsuccessful attempts have not excited the impetuous action of the uterus, which leads either to the death of the fœtus, or renders turning exceedingly difficult or impossible. (e). Cases in which turning was accomplished *after prior unsuccessful efforts*. Of these there were three, and the author relates two others which occurred in his private practice. Chloroform was employed in three of these, and turning would probably have been impossible without its aid. All the children were dead.

Summing up the results of the 85 cross-presentations treated by turning, we find that 66 children were born living (of these 9 were stillborn, 8 recovering, and 1 dying), 13 dead, and 6 in a macerated state. Separating the macerated children, as already dead before the commencement of labour, the proportion of dead to the living children was 1 in 5. Of the mothers, 69 were in good health, 6 recovered after short illnesses, 1 was transferred to the hospital on account of metastasis, and 9 died. It is to be remarked, however, that the confinement of some of the fatal cases took place at a time when a bad form of puerperal disease prevailed. Of the entire number of 12,523 confinements which furnished these 85 cases, 546 women died of puerperal disease, and 73 were removed to the hospital on account of metastasis, eclampsia, &c. Hence the proportion of mortality in the whole was at least 1 in 22.

D. *Decapitation.*—This was performed in two instances, which are related, the children being dead, and the shoulder being so much forced down, and the child so closely compressed by the uterus, as to render attempts at turning dangerous. Braun's modification of Smellie's hook was employed.—*Med. Times and Gaz.*, Jan. 9, 1858, from *Wien Wochenschrift*, 1857, Nos. 8, 9, 10.

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

Singular Result [*Thrombus*] *of an Injury in the last Stage of Pregnancy.* By BEDFORD BROWN, M. D., Yanceyville, Caswell Co., N. C.

I WAS called early on the morning of July 18th, 1857, to visit Mrs. P., in consultation with Dr. Roan, of this place. Dr. Roan informed me that he had attended Mrs. P. the previous evening in a premature confinement, which, for a primary labour, terminated readily, and with but little difficulty. After leaving his patient comfortable, and with a good prospect of an early recovery, he returned home, but not many hours after was summoned again in great haste to Mrs. P.'s bedside. He found her suffering most excruciating pains in the left iliac and inguinal regions, radiating over the back, hip, and thigh, in addition to which, a most intolerable strangury existed. The Dr. remained with her during the night without being able to mitigate her sufferings, which were so great as to produce extreme constitutional depression. On making a vaginal examination, early the following morning, he found a considerable elastic tumour occupying the left side of the pelvic cavity, between the walls of the vagina, the pubis and the ischium, and beneath the deep pelvic fascia.

On my arrival, the dimensions, location, sensibility, &c., of this tumour, were accurately examined by both of us. Dr. Roan thought it had evidently increased in size since his previous examination. The increase during the two succeeding hours was very perceptible. The patient was rapidly sinking, with an exceedingly quick and feeble pulse, blanched complexion, cold perspiration, and her sufferings were on the increase. In fact, the case presented all the indications of utter hopelessness.

In consultation, the first subjects for inquiry were the cause and nature of this novel and most extraordinary formation, which had appeared since delivery. Mrs. P.'s mother informed us, that the day before her daughter's confinement, in attempting to get over a fence, she slipped and fell to the ground alighting on both feet; the shock being very considerable. Immediately after the accident, she felt a sudden pain in the left iliac region, attended with a peculiar sensation, as if the parts beneath were torn apart. Many and various ideas suggested themselves to our minds, as the probable cause of this tumour. First, was it a retroverted womb? The uterine globe being still above the pubis, satisfied us on this point. Could it be a large hernia? The tumour being smaller in the beginning, but having gradually and progressively increased, the torture and pain increasing in intensity with it; the great elasticity of the swelling, as if due to fluid contents; the perfect freedom of the intestinal canal from obstruction or disturbance; all united to discourage that opinion. In fact, the sudden appearance of the tumour after labour; its progressive increase; the characteristic pain in the pelvis, as if the tissues were being torn and riven asunder; the great tension and elasticity; the peculiar pain at the time of the accident, led us to believe that one of the deep-seated vessels beneath the pelvic fascia had been ruptured by the jar which Mrs. P. sustained, that a slight effusion of blood followed, a coagulum formed and sealed up the orifice temporarily. But labour being hastened by the accident,

opened the bleeding orifice afresh, and gave vent to a large quantity of fluid blood, which, continuously escaping, made its way under the deep fasciæ of the pelvis, and between the walls of the vagina, rectum, and the left ischium and pubis, and part of the sacrum. In fact, the growth filled the whole pelvic cavity as far as the brim, pushing the uterus and bladder entirely above the upper strait. Concurring in this opinion, it became necessary to devise some means by which to arrest the alarming internal hemorrhage, and thereby put a stop to the growth of this tumour.

Mechanical means being of no avail here, we selected the gallic acid, as probably being one of the most effective internal hemostatics, in scruple doses every hour. In the mean time, the patient was put under the influence of powerful anodynes, to relieve pain and constitutional suffering. This treatment was energetically persevered in until evening, when the hemorrhage appeared to have been arrested, as the tumour ceased to increase. The anodynes had greatly relieved her sufferings, and though the abdomen was exquisitely tender on pressure, she was tolerably comfortable, but greatly prostrated; evidently more from loss of blood in the pelvis, than the attending pain.

For the next fortnight, Mrs. P. suffered from occasional severe paroxysms of pain and a low form of remittent fever, which quinine and tonics ultimately relieved. After this I saw nothing more of the patient until some six weeks had elapsed, when her husband requested me to visit and examine her, as the pelvic tumour had given her more pain than usual of late, and she thought probably something was escaping from it. On examination, I discovered a fistulous opening, caused by ulceration, leading through the walls of the vagina into the most dependent part of the tumour; through which, by means of pressure, I forced out a large quantity of grumous blood. Thus in the end verifying our original diagnosis. After this, the patient under a tonic treatment recovered her usual health.

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Tumour occurring thirty-six hours after Delivery. By J. Marcus Taylor, M. D., of Mississippi.—I received a message on the 27th November, 1857, to visit Mrs. N., an extremely feeble and delicate lady, in labour with her seventh child; but did not see her until about three hours after delivery. The labour was natural, and the child was received and separated by a female friend, who happened to be present. The placenta was expelled soon after the child, and removed by the same lady. When I arrived I was apprised of the above facts, and finding the lady suffering very severe after-pains, and otherwise apparently doing well, I prescribed ʒj tinct. opii camph., to be repeated as needed, gave the usual directions for the lying-in, and left. On the night of the 28th I was called to see my patient in haste on account of a tumour presenting itself at the vulva. On making an examination, I could detect nothing at all corresponding to the description given me by the lady and her friends. Mrs. N. informed me that while pressing on the tumour with her hand it disappeared, and she supposed it to be the womb which she had replaced *in situ naturale*. She was yet suffering considerable after-pains, but being able to discover nothing abnormal, I reassured her, gave a dose of morphia and Hoffman's anodyne, and retired for the balance of the night. Very early in the morning, I was invited into the sick room to witness the same difficulty for which I had been called in the night. On examination this time, I found a tumour protruding at the vulva as large as a man's fist, very smooth, round, and of a pear shape; the large extremity or base presenting.

I at first suspected inversion of the uterus. The size and shape of the

tumour; the general debility and want of tone in the muscular system of my patient, and the unusually severe after-pains, all conspired to lend force to that view; but the smooth, serous surface of the tumour, and the absence of any *cul-de-sac* around its neck, satisfied me at once that such was not the case. And on making slight pressure with the ends of my fingers, the tumour presented a boggy feeling, from which I inferred that it was a sac filled with some semi-solid matter.

With very slight traction efforts, I removed the whole mass, which proved to be a portion of the fœtal membranes, about eight by twelve inches, when spread out. Its internal surface being concave, served as a receptacle for the blood in its exit from the uterus, and when removed it was filled with firm coagula.

The pressure exerted upon the tumour by the hand of my patient before my arrival, caused the blood contained in it at that time to escape around the loose margin of the membrane, after which the sac collapsed, and lying close upon the walls of the vagina, was not detected in my first examination; and the membranes remaining in *statu quo*, refilled, and thus reproduced the tumour.

Rienzi, Miss., *January* 7, 1858.

Case of Poisoning by Laudanum; Recovery. By Thos. J. Gallaher, M. D., Pittsburg, Pa.

On the evening of the 15th of January of the present year, I was called to a female who was said to be extremely ill from having taken two ounces of tincture of opium for the purpose of committing suicide. The patient was a woman of loose character, about 28 years old, short of stature, very lusty and obese, and much addicted to the use of intoxicating beverages. As she was not seen until the poison had been drank one hour and a half, of course it had full time to exert powerfully its toxical effects upon her.

She was lying upon her back on a sofa in a state of perfect coma; the insensibility being so complete that ice water dashed violently into the face produced not the least evidence of sensibility, nor contraction of any of the voluntary muscles. The lips were livid; surface of the body cold and bluish; limbs relaxed; pupils contracted to the size of a pin's head, and immovable to the impressions of light; eyes everted, fixed, and strongly congested; eyelids closed; carotid arteries beating violently; respiration slow, laborious, stertorous, and very irregular, sometimes more than a minute would intervene between the respirations, when inspiration would suddenly occur accompanied with a loud and disagreeable snore; and the pulse was slow, irregular and feeble. From these symptoms and the history of the case I was convinced that she had taken laudanum, and was then suffering from the poisonous effects of that powerful narcotic. A dose of tartar emetic had been given her by one of the inmates of the house in which she lay; but as the stupor came on her before it had time to operate, emesis was not produced.

The treatment adopted was prompt. By the aid of a stomach-pump the stomach was soon relieved of its contents, and well washed out four or five times, with tepid water. The material raised from the stomach gave by its colour and odour unmistakable evidence of the presence of a considerable quantity of laudanum and whisky. The head was then directed to be somewhat elevated, and two mustard cataplasms—one to the epigastrium and the other to the space between the shoulders—were ordered to be applied, and permitted to remain till redness of the skin was produced. In a short time, symptoms of improvement became apparent; the pulse became fuller and

more regular; the respiration more regular, and the extremities slightly warmer. In two hours she was again visited, but as there was no further improvement, bloodletting was determined on. Failing to procure the requisite quantity of blood from either arm, on account of the exceeding obesity of the patient, the temporal artery was punctured, and several ounces of dark blood, much resembling that usually found in the veins, obtained. Some time afterwards a severe convulsion occurred, but this was of short duration. During the night an occasional sinapism was applied to different parts of the body, fresh air freely admitted, and heat applied to the extremities. Before morning a messenger came to inform me that she had revived from her stupor and become sensible, and was then very thirsty. Cold water in small quantities was permitted.

In the morning I visited her, and was pleased to find her quite free from coma. She complained, however, of headache, thirst, and vomiting, and an intolerable itching of the skin. Remedies were directed for these disagreeable symptoms, when, in a few days, I had the satisfaction of seeing my patient quite restored to her usual health.

Case of Hernia. By ROBERT LANE, M. D., Sutton, New Hampshire.

Mrs. B., a matron of 50, large and muscular, has had femoral hernia three or four years; thinks the tumour has been constant for the last two years; has suffered but little inconvenience from it till the evening of the 10th Nov. 1857, when she was attacked with symptoms of strangulation. Hot applications were made to the tumour, a physician called at 12 o'clock, who endeavoured by manipulation to reduce the hernia, but not succeeding, applied ice to the tumour, and gave morphia freely. I first saw her at 12 M. on the 11th; the pain and vomiting had subsided; there was an elastic tumour of the size of a butternut, with a thickening and hardening of the cellular substance around it an inch and a half broad from the elastic part of the tumour. No increase of pain that afternoon; enema given in the evening produced free evacuation.

Nov. 12, 10 A. M. Has rested well through the night; the tumour has an odd doughy feel, different from the elasticity of yesterday; free from pain when still, but complains of soreness on motion.

18*th.* Called again; patient restless with pain in the abdomen; erythema three or four inches broad, extending nine or ten inches up and down over the tumour; vesication of the tumour; gave opium and enema with a mild laxative.

20*th.* The laxative operated freely; less inflammation on the surface of the abdomen. The true skin on the tumour so dead that I removed an elliptical portion with the forceps and fingers, about one and a half inch long, by three-fourths of an inch wide; under this I found a portion of gangrenous intestine; raising this with forceps, one end separated, which was brought out of the ulcer and clipped off with scissors, so as to take out one and a half inch of intestine containing a portion of green vegetable. The part of the intestine cut off was open so as to pass the finger in it into the abdomen, the ulcer extremely fetid. Gave bark and opium; enema and laxative.

22*d.* A small quantity of fecal matter discharged from the ulcer, with free discharges per anum. Pain and tenderness with other symptoms of peritoneal inflammation; in two days these symptoms have subsided. Gave opium and bark.

25*th.* Removed about an inch and a half more of the intestine; less fecal discharge from the ulcer; fetor abated.

28*th*. Natural discharges from the bowels, kept free by mild laxatives and enema. Gave bark and opium; ulcer filling up with healthy granulation; still a little fecal discharge from it every day.

Dec. 2. Patient improving; continue the same treatment. From this time no unpleasant symptoms, except from confinement. A small quantity of fecal matter discharged from the ulcer till the first week in February.

1858, *Feb.* 14. The ulcer healed; the patient up about the house.

Dislocation of the First Phalanx of the Thumb upon the Dorsum of the Metacarpal Bone. By BENJAMIN CUTTER, M. D., of Woburn, Mass.[1]

This dislocation is generally caused by a severe blow received on the end of the thumb, when the arm is extended to save one's self while falling. The phalanx is forced backward upon the metacarpal bone, and firmly retained there by the lateral ligaments. But should the phalanx be forced *beneath* the meta-

carpus, it is easily replaced. On looking through authors on dislocations, both ancient and modern, mention will be found of great difficulty in treating this dislocation, and no easy method of reduction suggested. Many powerful instruments for traction have been devised, and cases of tearing off the member have been reported. In order to get a secure hold upon so small a limb, it has been usual to protect the thumb with a covering of soft leather, over which a strong tape is secured with a clove hitch so tightly drawn as to prevent slipping, and to which manual or mechanical power may be attached—such as the pulley, Jarvis's adjuster, &c. Many other ingenious contrivances, to secure certain hold of the member and make extension, have been made and recommended—such as Charrière's modification of Luer's pronged forceps; Levis's apparatus (see *American Journal of the Medical Sciences* for January, 1857); the "Indian puzzle," recommended by Dr. Hamilton, of Buffalo; Vidal's method with a common door key, advocated by Roux and many French surgeons, &c. &c.

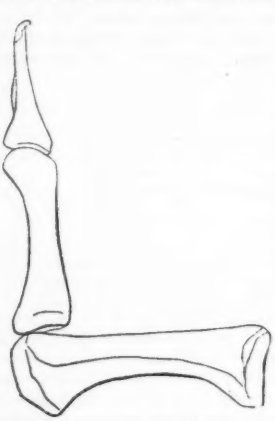
Dr. William Hey, of Leeds, a fine old English surgeon of the last century, and an eminently practical one, acknowledges from experience that "the reduction is in some cases extremely difficult, if not impracticable;" and it is noticeable that he mentions no cases where he was successful. (See *Hey's Surgery*, p. 206.) Many cases, after vain attempts, have been left unreduced, and the patients have been obliged to submit to the inconvenience for the rest of life, unless the division of one of the lateral ligaments, or the resection of the end of one of the projecting bones be made, both of which operations are reported.

The aforesaid devices and advices are all wrong, because unnecessary. There is a better way. For several years past, Professor Dixi Crosby, of Hanover, N. H., has been accustomed to describe the accident and its treatment in his medical lectures, so that the medical profession in New England are generally familiar with his method. Drs. Doe and Morgan have published articles relating to it; Dr. Crosby has not. From one of his pupils, I learn that, some years ago,

[1] An account of this method of reducing dislocation of the first phalanx of the thumb, upon the dorsum of the metacarpal bone, has already been published in our esteemed contemporary, the *Boston Med. and Surg. Journ.* (No. for Oct. 1, 1857), but we are induced to insert it here, as it has been communicated to us by Dr. Cutter, with corrections, and an important addition.

Prof. Mussey had a case in which all the usual appliances were employed without success, and resort was about to be had to the knife for the division of one of the lateral ligaments, when Prof. C. was permitted to try a method which had suggested itself as feasible in such accidents, and it succeeded admirably. Prof. C. remarks in his lectures, "that he has never failed in the *many* cases which have occurred in his practice, although in several instances all other methods usually adopted had been tried without effect." And "in his opinion, this method is equally applicable to similar dislocations of all the phalanges." I have verified this last opinion in one instance, the only one I have met with.

Case first occurred about six years since; the subject an Irish lad, about 8 years old, with his *left hand thumb* dislocated. After some ineffectual attempts to reduce it by his parents and neighbours, I was called. Having a general idea of Dr. Crosby's method, I proceeded to put it in practice. I placed the patient in a common chair, and took a seat in another at his side, both of us facing the same way. An assistant sat behind us, to hold the boy's elbow fixed. I then took hold of the metacarpal bone with my right hand, my forefinger passing between his thumb and forefinger, and my thumb resting on the top of the metacarpal bone, with its end touching the dislocated end of the phalanx. With my left hand I tipped the phalanx back, until it stood perpendicularly on the metacarpal bone; then pressing the phalanx forward by the end of my right thumb, it was readily carried by flexion into place, and the joint restored to its natural condition. The manipulation was performed in a twentieth part of the time taken to describe it. A bandage was applied for a few days to prevent displacement, and some evaporating lotion to subdue inflammation.



About the same time another similar accident occurred in an adult, an officer in the Customs, which, in my absence, was treated according to the same principle by my friend Dr. Rickard, and with equal success.

The next case, and which is the occasion of this paper, occurred in S——. The subject, a young girl about thirteen years of age, had the first phalanx of the *right* thumb dislocated on the back of the metacarpal bone. Dr. G., an irregular practitioner, was called, and failed in his attempt to reduce it. She was then taken to my friend, Dr. S., who sent her to me about the middle of one of the most rainy nights last month. As she had suffered considerably in the attempts to reduce the dislocation, she and her friends insisted on using some anæsthetic, and, although I considered it unnecessary, she was gratified. As it was the right thumb that was injured, I seized it with my left hand, the forefinger underneath, and my thumb on the back of the metacarpal bone. With my right hand I tilted up the phalanx, until the end of the joint rested upon the metacarpus; then pressing it forward with the end of my left thumb, I flexed the phalanx into line and place with ease.

I have recently received, at second hand, from Prof. Crosby, a letter in which he briefly states his claim, as the inventor of this process of reduction

by manipulation; and as it is well to fix the paternity of it on the proper person, I append it.

HANOVER, N. H., *Feb.* 4, 1858.

DR. R., DEAR SIR: Yours of the 30th is received, and I have to thank you for the interest taken in the matter of dislocation. Dr. C. has stated the thing so, that I doubt the propriety of adding anything to his article at present. I would suggest that you may emphasize the fact *that I discovered this method as early as* 1826. My first patient was a little boy, the son of Mr. Francis Ayers, of Gilmanton, N. H. I had assistants for several hours, while I was trying extension by the "clove hitch." At last I resorted to the method which I now use and recommend in my lectures, with complete success. I came to Hanover, Sept. 15, 1838, and, in a few days after, one Sunday afternoon, at the Dartmouth Hotel, I accomplished the reduction on a patient of Prof. Reuben D. Mussey, by the name of Williams. I refer to Dr. Mussey, now of Cincinnati, to corroborate. The first published case was by Dr. Arnold Morgan, of Canaan, N. H., who was my pupil, and derived the information from me in a course of private instruction, and who was afterwards my assistant in business. In a great number of these cases that have occurred to me, I have never failed to effect the reduction in a single instance. I can, moreover, bring forward at this time several parties, on whom I have practised this operation, since I hit upon it, in 1826. It is a very simple matter, but of incalculable benefit to any unfortunate who happens to have this luxation.

With regard, I remain yours, &c.,

DIXI CROSBY.

DOMESTIC SUMMARY.

Dislocation of both Thighs—one into the Foramen Ovale, the other on the Dorsum of the Ilium, with Fracture of the Cervix Femoris.—Dr. J. MASON WARREN communicated to the Boston Society for Medical Improvement the following interesting case: The patient was brought into the Massachusetts General Hospital, having been crushed by the giving way of a wooden house, which he was engaged in moving, being struck upon the back as he was making the attempt to escape. The right leg first attracted attention. The thigh was fixed, slightly flexed on the body, standing off from it, the foot presenting nearly forward, the limb apparently elongated. A deep hollow was felt in the region of the trochanter, which had itself disappeared. The man being etherized, and the pulleys adjusted, a gradually increased force was applied to extend the limb. A sheet was now placed under the upper part of it, and an assistant, standing on the table, directed to lift the limb. A slight rotation was now made to disengage the head of the bone, and it went into its place without any perceptible noise or action of the muscles.

The right limb being replaced, it was now perceived that the left limb was distorted, and presented all the signs of a dislocation upon the dorsum ilii. It was firmly fixed, shortened, the toes everted and resting upon the upper part of the other foot. The trochanter was prominent, and drawn up from its place to within about three inches of the crest of the ilium. On making an effort to move the limb, an indistinct, but very decided crepitus was perceived.

The pulleys being adjusted, and a fresh dose of ether administered, the limb was slowly and with much difficulty drawn down, a slight rotatory motion being given to it when the head was on a level with the socket. It went into its place with a loud crack, which was heard by all the assistants. The limb now appeared, at first, to have regained its natural condition. As the effect of the ether upon the muscular system subsided, the limb gradually contracted, and the foot became slightly everted. An examination now being made, by rotating the limb, and placing the finger on the trochanter, it was perfectly evident to all present, that there was a comminuted fracture of the thigh-bone,

passing through the trochanter. The two limbs were therefore confined—the right one by a weight attached to it, and a cradle placed over it. To the left, Desault's splint, as used at the Hospital, was applied. In addition to the above injuries, there was a fracture of two or three ribs on the left side.

The best explanation of the appearances offered by the left limb is this. The violent crushing force dislocated the femur, at the same time breaking the neck of the bone. The separation of the parts was not, however, sufficient to prevent them from being replaced, but the fracture was made complete, on the bone being returned to its socket.

The subsequent history of this case is not without interest. The patient, from the time of his admission, had complained of his chest, where, it may be remembered, one or two ribs were broken. Suddenly, one night, great difficulty of breathing came on, and, upon examining the chest, it was discovered that a congestion of the posterior part of both lungs had taken place, such as has before been observed at the Hospital, in patients who for a long period of time have been confined on the back, without movement, after serious injuries to the lower limbs. From this affection he very gradually recovered.

At the end of two months, he left the Hospital well. The motion of the right limb was natural. The left leg was a little shortened. The motions of the hip-joint were limited; on examination, the trochanter was found irregular at the point of fracture. As it had been thought possible that the head of the femur might have been left on the dorsum of the ilium when the complete fracture of the limb took place, search was made for it, but it could not be found there.

In this connection, Dr. Warren mentioned the following case of dislocation, and which was interesting in a practical point of view. A man was brought into the Hospital with a dislocation on the dorsum ilii, which was caused by a wagon passing over him, the limb being at a right angle with the body. Ether was given, the pulleys applied, and the dislocation reduced. On raising the limb slightly, to examine it, it at once slipped out of place, and was reduced again with some difficulty. This experiment was once or twice repeated, with the same result. Dr. Townsend, who saw the man, verified the fact. Slight, though not very marked crepitus attended the movements of the joint. From fear of displacement, and with the idea of a fracture of the edge of the upper and back part of the cotyloid cavity, the limb of the patient was kept rigidly confined in Desault's apparatus, and his desire to return home resisted. The precautions taken in this case were afterward shown to be not without reason. About three weeks after the accident, Dr. W. being out of town, the patient got out of bed, and while resting on the injured limb, attempted to turn around, thus giving a slight twist to the hip-joint. The bone immediately slipped from its socket. This accident afterward, in the course of the next week, recurred a number of times from simple motions made by the patient while in bed. It was then determined to put on a permanent splint, and allow it to remain on for several months. This had the desired effect, and the patient was seen by Dr. W. some months after leaving the Hospital; the joint was then slowly regaining its mobility.—*Boston Med. and Surg. Journ.*, Jan. 14, 1858.

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A Simple and Efficient Bandage for Fracture of the Clavicle.—Dr. Julian Chisolm describes (*Charleston Medical Journal*, March, 1858) a simple, and what seems to be, at the same time, a very efficient bandage for fracture of the clavicle.

The bandage is formed of a strip of cloth from three to five feet long, and from eight to eighteen inches wide (according to the size of the patient) which is slit from both ends in such a way as to leave a bridge from one to two inches wide in the centre, connecting the two lateral half strips. A soft pad having been placed in the axilla, to act as a fulcrum upon the riding fragment, the affected arm is carried over the chest, the palm of the affected hand resting upon the side of the thorax, under the border of the opposite armpit. This position of the arm removes all deformity, and brings the fragments in apposition. The centre of the bridge of cloth is now placed under the elbow, the superior strip, which covers half the height of the affected arm, is made to en-

circle the chest; one end is carried forward, the other backward, to meet the opposite armpit, where, after enveloping the hand, and being firmly drawn upon the affected arm, they are secured with needle and thread, pins, or an ordinary knot. The inferior strap, which is placed under the affected arm as a sling, is made to traverse the chest in the same way, the ends meeting over the opposite shoulder, where they are secured by the same means. If at the several points where the strips cross each other, a stitch or a pin is placed, the result will be a firm casing, which, even in the most restless child, cannot be disarranged. The needle and thread is by far the preferable mode of completing and sustaining the adjustment, as the stitches are not apt to be interfered with by the patient or friends; pins, on the contrary, are often tampered with, particularly if there should be any restraint from the bandage. As the material is quite soft, no binding nor excoriations are produced. The bandage supports the entire limb in an easy position, and clasps the arm sufficiently to prevent injurious motion, without being irksome to the patient. It requires no constant renewal, as one single application, if carefully made and properly secured, can be worn until the cure is perfected.

Dr. C. says he has used this simple contrivance for several years with satisfaction.

Some Remarks on Cataract.—Dr. C. S. Fenner, of Memphis, Tenn., in a recent paper, under this caption (*North American Medico-Chirurg. Review*, Jan. 1858), makes the following remark in regard to the operation of couching, which, we think, for the credit of American ophthalmic surgeons, ought not to be allowed to pass without notice.

Dr. F. states: "When the cataract is hard, couching is the operation generally preferred by American surgeons, although by most English and German authors, it is placed in the lowest scale."

We feel quite sure that Dr. F. is mistaken in supposing that American Ophthalmic Surgeons differ from their brethren in England and Germany, in their estimate of the operation of couching; indeed, the very few in this country who practise or advocate that operation, constitute the exception, not the rule.

Mr. Dixon regards depression "as an unscientific and destructive operation," and the same opinion of it is expressed in the last American edition of *Lawrence's Treatise on Diseases of the Eye* (see p. 723). Mr. Walton and Dr. Mackenzie both hold similar views in regard to it (see *Ibid.*, p. 723 and 724).

Dr. Fenner, candidly admits, that his "own experience in displacement has not been so favourable as that reported by some American Operators."

And he goes on to state: "In my operations for cataract by displacement, I have often had to combat a subacute chronic internal inflammation, sometimes coming on several weeks after the operation, and seemingly induced by atmospheric influences. The presence of a hard lens in the vitreous humour in some instances causes irritation, followed by slight redness of the conjunctiva, inability to bear light, increased secretion of tears, a sensation of fulness in the eye, soreness to the touch, and pain at times extending to the terminal branches of the fifth pair of nerves. Iritis may supervene with effusion of lymph in the pupil, but generally the pupil remains clear, the vision gradually fails, until the eye becomes almost amaurotic. I have had this result to occur most frequently in delicate, aged females. Mr. Lawrence remarks that "internal inflammation commencing in the iris, and proceeding slowly, is a common occurrence after depression;" and Mr. Mackenzie, that "chronic inflammation of the internal textures of the eye is a frequent consequence of depression or reclination. It is not attended by much pain, but prevents the eye from ever attaining a degree of healthiness sufficient to render it useful. The patient, perhaps, retains a considerable degree of recovered sight for some weeks after the operation; but epiphora, varicose dilatation of the external bloodvessels of the eye, and in general a contracted, but sometimes a dilated pupil supervening, the sight becomes weak, and in a few months is extinguished." I have repeatedly had cataract patients return to their homes able to see to read fine print with ease, yet in a few months scarcely able to walk about, and I have witnessed the same final termination in those who have been operated on by

experienced surgeons of the North and East; they returned home with good vision, but this gradually failed them, until they became amaurotic. Such being the occasional result, no case of cataract should be reported as cured, unless the state of vision is known six or twelve months after an operation; and if operators would keep their patients in view for that length of time, the final result of their operations, I am inclined to think, would not be so favorable as they sometimes report.

Every ophthalmic surgeon who has carefully watched the results of the operation of couching, has observed the same unfortunate consequences as those described by Dr. F., and this so very frequently, that couching has now few, if any advocates, anywhere among prudent and conscientious ophthalmic surgeons. Dr. F. is perfectly correct in his opinion, that no cataract should be reported as cured until the state of vision is known twelve months after the operation.

It is to the practice pursued by some surgeons, of hastily reporting their cases, before the ultimate result can be determined, that so much false glare has been thrown around operative surgery, and such erroneous estimates been made of the value of certain operative procedures, and which has in the present case, as we believe, misled Dr. Fenner.

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Thrombus of the Vagina.—Dr. Boisliniere lately reported to the St. Louis Medical Society the following interesting case of this rare accident:—

The patient, a primipara of leucophlegmatic habits, with a normal pelvis, after an ordinary labour, ending with rather severe expulsive pains in the birth of a living child, was left comfortable, when, an hour and a half after, he was called to see her in haste. He found her in the greatest suffering, crying loudly and assuring those around her that this was ten times more severe than her labour pains. She complained then of a burning sensation in the vulva, and a severe bearing down on the rectum, which gave her a pressing inclination to go to stool. She suggested that it was piles. This pain was so agonizing that she had no words to express it. In fact, she could hardly utter two words in succession. This appeared to him the more strange from the great fortitude she had shown during her labour. Dr. Boisliniere confessed that he fell here into the same error committed by Dr. McBride in a similar case, and that he took this at first to be one of those violent tenesmic pains that are experienced sometimes after labour, when the child's head has quickly and violently swept over the vagino-rectal septum—a sort of severe spasm—and he ordered opium suppositories, and hot fomentations to the parts; the latter, as proved on trial, only aggravated the evil; the pain continuing to increase instead of abating. He made then a vaginal examination, which revealed to him the true nature of the complaint—it was a very large thrombus, beginning on the left side, ascending along the side of the pelvis as high up as the finger could reach, filling the whole of the vagina, so that the finger could with difficulty only be introduced, and descending as low down as the left labium, where it was characterized by great hardness and elasticity. This tumour was rapidly enlarging—he could ascertain this by keeping the end of his finger on its surface—the patient was in the greatest agony, her pulse was getting quick, her countenance anxious and distressed. There was only one course to follow—Dr. Boisliniere, under these circumstances, availing himself of the great experience of Dr. M. M. Pallen in matters of this sort, sent for him, and it was decided to open the tumour largely at once. Dr. Pallen then incised the tumour which was projecting and bluish—his incision extended to three inches in length and reached the cavity of this thrombus, after which he emptied it of the coagula it contained, except the most adherent at the bottom for fear of inducing hemorrhage, and a sponge was introduced in the vagina to act as tampon. The patient was immediately relieved and recovered well. The amount of clotted blood extracted must have been several ounces.

Dr. Pallen said, that the case related by Dr. Boisliniere was a very interesting one; interesting on account of its rareness, and on account of the fatality often attending them. He believed that the first published case in British midwifery, was that of Dr. McBride, which occurred in 1776. It had

however been observed before. Since then, it has been noticed and described by various writers. Dr. Denman saw three cases, and all recovering, he was induced to think that the disease was devoid of danger; subsequent experience has, however, shown that he was mistaken—death has frequently occurred.

This disease, which consists of an effusion of blood into the areolar tissue, may be in one or both labia, may extend into the pelvis, and into the perineum.

It doubtless, sometimes, occurs in the unimpregnated female; but it is usually an accompaniment of labour, appearing either during its progress, or soon after. The swelling of the labia, and the feeling of weight, are succeeded by great pain. If the distension be very great, the pain is agonizing; fever of an active kind ensues, and even delirium. The patient can only lie on her back, with her thighs widely separated. The tumour is of a livid colour, almost black, and is extremely tender.

Dr. PALLEN added, that there could be no doubt that the effusion arose from rupture of some vessel. In a state of pregnancy, the vessels are in a varicose condition, and their rupture easily produces a large discharge of blood. What particular bloodvessel is ruptured, is not determined, probably the pudic vein.

"If the tumour," said Dr. P., "occurs before delivery, and increases slowly, and does not interfere with delivery, it might be trusted to nature. If it increase rapidly and interfere with labour, it ought to be laid open, and the coagula turned out. The same rules apply to the treatment, if it occur after delivery. If it be of slow formation, and not large, the application of cold cloths is all that is necessary; but if it form rapidly, and the pain is great, then we ought to cut it open, turn out the coagula, leaving those which are entangled in the areolar tissue, as they will tend to prevent further bleeding. This being done, the tampon should be used, to produce pressure on the bloodvessels.—*St. Louis Med. and Surg. Journal*, Sept., 1857.

Fatal Asphyxia from Imperfect Combustion of Gas.—The case of a gentleman found dead in his bath-room, and whose death was attributed to inhaling air rendered impure by a gas stove used to warm the room, was a short time since communicated to the Boston Society for Medical Improvement. The Society appointed a committee to investigate the circumstances, and in a recent report (*Boston Med. and Surg. Journal*, March 18, 1858) made to the Society, the committee express the opinion that an adequate and sufficient cause of the fatal result in this case is found in the deleterious products resulting from the imperfect combustion of coal gas.

The following account of an experiment upon a cat, placed in a room with one of the gas stoves, was read to the Society by Dr. Ellis:—

"The cat was placed in an iron grated cage, elevated two and a half feet from the floor, the room being eight feet square and ten feet high. The thermometer indicated 90° when taken out. The first thing noticed was a snapping of the eyes, then a crying (as is frequently heard in the night from cats), this becoming, in fifteen or twenty minutes, pretty loud. In a short time this crying stopped. The mouth moved, but without any noise. She sneezed fifteen or twenty times, and rubbed the nose and face with her paw; afterward tried to bite the iron grating of the cage. There was a flow of watery fluid from the mouth, but without any frothing. The mouth was open most of the time. While lying down she would try to get up on her back legs, and would fall over immediately. In thirty minutes there was a tremulousness and throwing back of the head. The respiration became long and stertorous. Convulsive movements came on about the epigastrium, which increased over the body generally, and in forty-eight minutes the animal was dead."

We trust that this very conclusive experiment will tend to awaken the profession and the public to the incalculable importance of free ventilation, and the employment of proper means for warming our houses; and that gas stoves, air-tight stoves, and many like economical means of warming—economical of the purse, at the expense of comfort, health, and duration of life—will be banished from our dwellings. Every means of warming which is not combined with ventilation—in which there is not a full supply of pure, atmospheric air, at not too high a temperature, combined with its entire and constant renewal—

is deleterious to living beings; it is productive of discomfort—sickness, and tends to shorten life.

The claims of the stomach for food are universally admitted, but those of the lungs for fresh air are almost as generally ignored, though the functions of the latter are no less essential to life and health than those of the former. Every human being requires eleven cubic feet of fresh air per hour for respiration, and, if this be not supplied, the blood becomes deteriorated, which is followed by an impairment of all the vital functions, and ultimately their cessation.

—

Inverted Toe Nail treated without Operation.—Dr. Robert Campbell states (*Southern Med. and Surg. Journ.*, Feb., 1857) that, dissatisfied with the operation for evulsion of the nail, which he has long deemed, and very justly, we think, an unwarrantable measure of torture, he was lead to devise some expedient which might answer the indication *of keeping the nail apart from the irritated flesh.* Whilst treating a severe case of inverted toe nail, in 1851, he tried an apparatus which gave him so much satisfaction, that he has adopted it in all cases since.

"This apparatus is formed of a bandage somewhat broader than the length of the nail—say ⅜ths of an inch and 1½ yard long, having a roll at one end about ¼th of an inch thick, to be used as a compress, to which the last turn of the bandage is tacked, to prevent the disposition, otherwise, to unroll on traction. This compress is applied in the groove, between the flesh (which is generally much enlarged) and the nail. The margin of the compress, at which the last turn of the bandage is sewed, must present always upward and opposite to the direction in which the pressure is to be exerted—*i. e.*, if the outer border of the great toe on the right side is affected, the seam should be directed upwards and towards the left side of the patient. Thus applied, the bandage will become somewhat wound around the outer side of the compress, which is to be pressed, at first, very gradually and tenderly, but somewhat forcibly, downwards and outwards, until secured in that position by several turns of the bandage around the great toe, carrying it first down, between that member and the second toe, and around several times. The great toe is then to be depressed and forced outwardly, under the second, which is placed upon the compress, and lightly bound in that position by a few turns of the bandage.

"The bandage should be re-applied, at least as often as once a week. If the prominence of flesh, against which the compress is to rest, is very irritable, a layer of lint, anointed with simple cerate, should intervene. At the first impression of the compress to the sore flesh, the patient experiences some degree of pain or soreness; but the very prompt abatement of suffering following the relief of the inflamed tissues from the irritation of the sharp nail, and also the diminished turgescence of the part, induced by the uniform pressure of the compress and bandage, will prove an ample recompense. The comfort of the patient and celerity of recovery are much enhanced by keeping the limb in an elevated position. It is a matter of surprise, bordering upon astonishment, to see the great diminution of sensitiveness in the part, at each succeeding application of the apparatus. Six or eight weeks is time sufficient for relief, generally, or for such an improvement as to render it safe to intrust the case to the care of the patient."

A much simpler plan, and one we have pursued for twenty years, and which perfectly fulfils the indication of keeping the nail apart from the irritated flesh, is to introduce by gentle pressure with the edge of a pen knife, a portion of lint between the nail and the flesh. By a little manipulation, this may be effected with little if any pain, and the process is to be daily repeated. It will be found that with each repetition of the process, the space between the nail and flesh increases, that a larger portion of lint may be introduced, and that its introduction becomes easier. We have employed this mode of treatment so often, and with such satisfaction, that we confidently urge it on the attention of the profession.

—

Case of Impalement.—Dr. A. C. Garratt, communicated to the Suffolk District Medical Society, the following remarkable case. The subject of it was

a sailor, whose magnificent chest attracted the narrator's attention particularly on account of a very large depressed semilunar cicatrix, situated directly over the region of the heart.

"His name was John Taylor. On the 6th of May, 1831, when about twenty years old, he shipped on board the Danish brig Ann, of Scarborough, then lying at the London docks, getting ready for sea; on that very day, while endeavouring to direct and enter what is called the step-bolt, or iron pivot, of the trysail mast into its socket in the rail, the tackling gave way, precipitating him backward upon the deck. The mast, with the iron bar fixed in its lower end, dropped almost perpendicularly upon his chest, driving the rough iron through him into the plank beneath, while the square end of the spar fell upon his thorax, compressing it in a most frightful manner. He remained thus transfixed to the deck, with the mast upon him, until new tackling could be rigged to hoist the spar. He was taken to the London Hospital, apparently in a dying condition, but, rallying under prompt surgical treatment, he gradually recovered. At the end of twelve months, he left the hospital, soon after shipped again as a sailor, and has continued in that employment up to the present time, about twenty-six years. He said that he had not been in London for eighteen years, but that his case must be known to the surgeons there, and that the bar of iron was taken from the mast and placed in the Museum of the Royal College, together with a sketch showing the position, size and shape of his cicatrices.

"So extraordinary a history seemed to warrant investigation, and I prevailed on Mr. Taylor to accompany me to London, where Drs. Ferguson and Partridge recognized him and corroborated his statement. In the Museum I found the sketch and the bolt, and also a record of the case, from which I gained some additional facts. The scalp was extensively laid open; the inferior maxillary bone was fractured, and a portion of it, with several teeth, removed, and there was considerable exfoliation from the different wounds, during his convalescence. At the time of the accident, the anterior extremities of the fifth and sixth ribs of the left side, together with their cartilages, were removed from the wound in front, while portions of the necks of the seventh and ninth ribs of the same side, with a mass of muscle and integument, were removed from near the spine where the bolt made its exit. These are preserved as a wet preparation in the Museum of the London Hospital. The mast weighed 600 pounds, and was thirty-nine feet in length. The bolt was six inches in length. He left the hospital in good condition, and since the accident has had uniform good health, suffering from no general or local weakness, no sensation of stricture about the thorax, no pain, no cough. He lives well, but temperately. On auscultation and percussion, the organs of the chest and abdomen seemed perfectly normal; in short, he presented, in all respects, the appearance of a perfectly healthy and robust man.

"On reviewing this case, we are naturally led to inquire what circumstances could have saved the man from instant death. Was it simply from the fact that the bolt of iron was blunt on its end, and, therefore, after penetrating the anterior parietes of the thorax, it pushed aside, without piercing the heart, blood-vessels, and other important organs, and came out through the back without having caused a necessarily fatal wound? It is instructive, because it is recorded that the man had prompt and thorough surgical treatment, as if he were expected to recover. It also reminds the profession of what the '*vis medicatrix naturæ*' can, and sometimes will do, if aided by skilful hands."—*Boston Med. and Surg. Journ.*, Jan. 14, 1858.

Extraction of a Living Child, by Turning, after the Death of the Mother.—Dr. G. W. Thornton records (*Cincinnati Lancet and Observer*, Feb. 1858), an interesting case of this. The mother died suddenly whilst in labour, from some unascertained cause. Forty minutes elapsed after the last expiration of the mother before Dr. T. arrived, and was able to attend to the undelivered child. He found that the membranes had been ruptured, that the head was in the cavity of the pelvis, the vertex presenting at the inferior strait. Dr. T. raised the fœtal head, passed a hand into the flaccid womb, turned the child and extracted it as far as the head without delay; at this point it momentarily hung

until assisted by the fingers in its mouth. Thus, forty-five minutes elapsed from the last expiration of the mother to the complete extraction of the child.

The child did not breathe, and was of a bluish colour; but a slight ticking sensation could be heard on the ear being placed over the heart. The fauces were cleared, Marshall Hall's ready method then diligently practised for half an hour, when a convulsive inspiration took place. This method was persevered in, assisted by aspersions and frictions, and at length respiration was established. The child, a boy of the average size, sucked vigorously at the bottle, and lived for three weeks and two days; its death, probably, resulting from want of sufficient care.

—

Absence of Urea and Uric Acid in Urinary Secretions in Yellow Fever.—Dr. F. Peyre Porcher states (*Charleston Medical Journal and Review*, Jan. 1858), that after careful microscopic and other examinations of the secretions from the kidneys, during the whole course of an epidemic of yellow fever, occurring in Charleston, in 1856, he has been able to trace the constant absence of uric acid and urea. This failure of the urinary organs to eliminate this substance Dr. P. regards as of great importance, and he attributes to it some of the most dangerous symptoms in the progress of the disease, as the coma and other indications of torpor of the brain in the latter stages.

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Creasote in Dysentery.—Dr. G. E. Elmer states (*New Orleans Med. News and Hospital Gaz.*, Jan. 1858), that in an epidemic dysentery of a very malignant and fatal type, which prevailed twelve years since in a malarious section of the Parish Avoyalles, and which resisted ordinary treatment, creasote in doses of two drops in gum Arabic mucilage, given every two hours, arrested the disease.

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Euphrasia Officinalis as a Cure for Epilepsy.—Dr. J. G. Kyle recommends (*Western Lancet*, Dec. 1857) the *Euphrasia Officinalis* as a remedy for epilepsy. His attention was directed to it, from its being used as a domestic remedy for the cure of the disease, and he has employed it himself with success. He gave four ounces of the infusion every morning fasting.

—

Treatment of Prolapse of the Funis.—Dr. T. Gaillard Thomas, in a paper recently read before the New York Academy of Medicine (*New York Journ. Med.*, March, 1858), recommends that in cases of prolapsus of the funis, the woman should be placed on her knees, with her face and chest resting upon the bed. His rules for the treatment of prolapsus are:—

1st. If the cord is detected before the waters have broken, let no manual assistance be offered, but place the woman at once in position, and trust to this for its return to the uterus.

2d. Should the waters have flowed away, and left the cord below the head, place the woman in position, and push it up with the hand if practicable, or with a porte cordon, consisting of a gum elastic catheter, with a tape passed through it, if not so—

3d. Let no manipulations be commenced until the woman be placed in position.

—

Inoculation with Gonorrhœal Matter for the Cure of Granular Lids and Corneitis.—A case is recorded in a recent No. of the *Cincinnati Lancet and Observer* (Jan. 1858), of granulations of the lids with corneitis, treated by the application of gonorrhœal matter to the conjunctiva. We regret to find that such a practice has been introduced in this country, for though sanctioned by Piringer and Jaeger, we believe that it is wholly unnecessary, exceedingly unsafe, and, in fact, calculated rather to aggravate the mischief than afford relief. We had hoped that such eccentricities and extravagancies in ophthalmic practice would find no imitators among ophthalmic surgeons in this country.

INDEX.

A.

Achillea millefolium, emmenagogue action of, 503
Acute rheumatism cured by large doses of iodide of potassium, 519
Addison, disease of supra-renal capsules, 509
Adhesive plaster as a counter-extending means in fractures of thigh, 105
Air, chemical changes in, during respiration, 500
Albumen, physiological relations of, 497
Alkalies, influence of, on belladonna, hyosciamus, and stramonium, 501, 502
American insane hospital reports, notices of, 213, 449
Amputation at knee-joint, 272
Anæsthesia in phthisical vomiting, 266
André, tracheotomy in croup, 272
Aneurism, popliteal, cured by compression, 535
Ankle-joint, Perogoff's operation at, 536
Anthelmintic, kameela as an, 522
Antidote to poison of rattlesnake, 94, 375
Apoplexy, embolic, 267
Appendix vermiformis, fatal disease of, 383
Aran, perchloride of iron in erysipelas, 520
Arterio-venous aneurism, 268
Ashton on Diseases, &c., of the Rectum, notice of, 487
Asphyxia of submersion, 262
——— from imperfect combustion of gas in a gas stove, 567
Asthma, effect of local influences on, 517
Atcherley, anæsthesia in phthisical vomiting, 266
Atlee, peracephalus, 370
—— rupture of trachea, 120

B.

Barclay, Manual of Diagnosis, notice of, 485
Barker, intra-uterine fractures, 552
Beale's Archives of Medicine, notice of, 483
Becquerel, method of determining sugar in diabetic urine, 243
Belladonna and mercurial ointment in croup, 340
——— in incontinence of urine, 267
——— influence of alkalies on therapeutic properties of, 501, 502
Bennett, injections of bronchi in pulmonary diseases, 265
Bernard, elimination of sulphuretted hydrogen by the lungs, 245
Bernard, variation in colour of venous blood, 494
Bibron's antidote to poison of rattlesnake, 94, 375
Biological Society of Paris, notice of Memoirs, &c., of, 482
Bird on erysipelas, 264
Bladder, and uterus, reciprocal sympathies of, 544
——— foreign bodies introduced in, 277
——— gun-shot wound of, recovery, 295
Blood, uses and properties of dark and red 496
Bloomingdale Asylum report, notice of, 455
Boisliniere, thrombus of vagina, 566
Bran loaf for diabetic patients, mode of preparing, 254
Briquet on hysteria, 261
Broadbent, after-treatment of surgical operations, 525
Brodhurst, on club-foot, &c., notice of, 233
Bronchi, injections of, in pulmonary diseases, 265
Bronzed skin and disease of supra-renal capsules, 509
Brown, singular result of injury in last stage of pregnancy, 555
Brown-Séquard, Journal of Physiology, notice of, 479
——— uses and properties of red and dark blood, 496
Budd, treatment of diabetes with sugar, 506
Burns, collodion and castor oil in, 532

C.

California, notice of Transactions of Medical Society of, 210
Campbell, large doses of iodide of potassium in acute rheumatism, 519
——— Secretory and Excito-Secretory System of Nerves, notice of, 470
——— treatment of inverted toe-nail, 568
Camplin, mode of preparing bran loaf for diabetic patients, 254
Cancer, epithelial, 276
——— escharotic treatment of, 274
——— present state of surgical science in reference to, 273
Cancerous lymphatic glands, 530
Carnochan, excision of entire radius, 363
——— exsection of trunk of second branch of fifth pair of nerves for neuralgia, 134
Carotid artery, ligature of, 226

Casselberry, use of iron, 327
Catalepsy cured by nitrate of silver, 143
Cataract, spasms of the eye after extraction of, 279
——— Fenner on, 565
Caustic glycerine in lupus, 253
Cazeaux's Midwifery, notice of, 484
Cervix femoris, intra-capsular fractures of, 227
Chereau, suicide and intoxication by chloroform, 286
Chest diseases, cod-liver oil in, 264
Chisholm, bandage for fracture of clavicle, 564
Chlorate of potash in stomatitis materna, 296
Chloride of potash, therapeutic action of, and new mode of administering, 523
Chloroform, death from, 288
——— in intermittent fever, 266
——— suicide and intoxication by, 286
Cholera, Asiatic, 263
Chorea, tartarized antimony in, 522
Choroid plexuses of the human brain, 491
Chronic rheumatism, principles of treatment in, 519
Clarke on perforation of membrana tympani, 13
Clavicle and humerus of same side, fracture of, 352
——— bandage for fracture of, 564
Clinique of the Midi Hospital, review of, 427
Coagula in veins during puerperal state, 548
Cocoa-nut oil ointments, 506
Cod-liver oil, administration in capsules, 504
——— gelatinization of, 253
——— in chest diseases, 264
——— with Iceland moss, 253
Colchicine, experiments on, 502
Colchicum, comparative action of dry bulbs and the seeds of, 502
College of Physicians of Philadelphia, Transactions of, 377
Collodion and castor oil in burns, 532
——— in orchitis, 532
Confection of cinchona as an antiperiodic, 293
Congelations, 530
Consumption, specific treatment of, by phosphorus, 516
Coolidge, vital statistics of war, 86
Cooper, removal of foreign body from beneath the heart, 229
——— spasms of the eye after extraction of cataract, 279
——— dislocation of crystalline lens, 543
Coote, process of repair in division of tendo-achillis, 527
Corfe, treatment of diabetes with sugar, 508
Cotton, specific treatment of consumption by phosphorus, 516
Cow's milk, mode of improving, 254
Creasote in dysentery, 570
Croft, experience as to Perogoff's operation at ankle-joint, 536
Cross-presentations, 553
Croup, belladonna and mercurial ointment in, 340
——— glycerine in, 338
——— tracheotomy in, 272
Cutter, dislocation of first phalanx of thumb, 561

D.

Delioux, chloroform in intermittent fever, 266
Denucé, foreign bodies introduced into bladder, 277
Derrubaix, prevention of ill consequences of operation, 271
Deschamps, formula for liquor cinchona, 253
Dethan, therapeutic action of chloride of potash, and new mode of administering it, 523
De Vesey, Bibron's antidote to the poison of rattlesnake, 375
Diabetes, different nature of certain forms of, 243
——— treatment of, with sugar, 506
Diabetic urine, method of determining sugar in, 242, 243
Diagnosis, notice of Barclay's Manual of, 485
Diamantapuplos, extra-uterine gestation, 551
Diarrhœa, guarana in, 521
Diphtheritic ophthalmia, 280
Dislocation of crystalline lens, 543
——— of humerus reduced by manipulation, 344
——— of os coccygis, 270
——— revision of doctrine of, 268
Dugas on Fractures of Scapula, notice of, 222
Dunglison's Medical Lexicon, notice of, 232
Dysentery, creasote in, 570
Dysuria, large doses of quinine in, 532

E.

Elimination, doctrine of, 524
Ellis, defects of escharotics, and suggestions for their improvement, 503
Elmer, creasote in dysentery, 570
Encephaloid tumours weighing ten pounds, 291
Epilepsy, lactate of zinc in, 522
Epistaxis arrested by administration of common salt, 390
Epithelioma of lip cured by sulphate of zinc, 346
Erysipelas, nature, treatment, &c., 264
——— perchloride of iron in, 520
Escharotics, defects of, and suggestions for their improvement, 503
Esmarch, embolic apoplexy, 267
Euphrasia officinalis in epilepsy, 570
Eve's Remarkable Cases in Surgery, notice of, 230
Excision of enlarged tonsils, 535
Excrement, human, immediate principles of, 248
Extra-uterine gestation, 551
Eye, injurious effects on, of the light from the fish-tail burner, 377
—— spontaneous rupture of, 373

F.

Fallopian pregnancy, 123
Faulkner, chlorate of potash in stomatitis materna, 296

Femur, fracture of neck of, bony union, 294
——— resection of, 354
Fenner on cataract, 565
Fleming, spontaneous rupture of eye, 373
Flint, on pulmonary tuberculosis, 52
Formula for caustic glycerine, 253
——— for confectio cinchonæ, 294
——— for gelatinization of cod-liver oil, 253
——— for liquor cinchonæ, 253
——— for valerianate of ammonia, 253
Fournier, Clinic of the Midi Hospital, review of, 427
Fracture of clavicle and humerus, same side, 352
Fractures, intra-uterine, 552
France on supposed influence of alkalies on belladonna, stramonium, &c., 502
French, quadruple births, 282
Friends' Asylum, notice of report of, 213
Functional paralysis, 524
Funis, treatment of prolapse of, 570

G.

Gallaher, poisoning by laudanum, 559
Garratt, impalement, 568
Garrod, influence of alkalies on therapeutic properties of hyoscyamus, belladonna, and stramonium, 501
——— method of determining sugar in diabetic urine, 243
Gay, fracture of neck of femur, bony union, 294
—— ovariotomy, 296
—— Surgical Cases, notice of, 228
Gibb, poisoning by laudanum, 288
Gilbert, adhesive plaster as a counter-extending means in fractures of thigh, 105
Girwood, permanganate of potash as a caustic, deodorant, &c., 249
Glaucoma, pathology of, 539
Gloninger, confection of cinchona as an antiperiodic, 293
Glyceramyl, a proposed substitute for fats in ointments, 506
Glycerine in pseudo-membranous croup, 338
Glysamyl, a proposed substitute for fats in ointments, 506
Gobley, preparation of iodide of calomel, 505
Grinstead, gun-shot wound of bladder, recovery, 295
Griscom, melanotic tumours of thoracic and abdominal viscera, 392
Gross's Pathological Anatomy, review of, 145
Guarana in chronic diarrhœa, 521
Gumprecht, mode of improving cow's milk, 254

H.

Habershon, treatment of pleuro-pneumonia, 514
Hæmophilia, 259
Halsey, resection of lower-jaw for necrosis, 356
Hammond, alterations induced by intermittent fever in the urine, and on action of disulphate of quinine, 322
Hammond, Bibron's antidote to poison of rattlesnake, 94
Harley, chemical changes in air during respiration, 500
——— histology of supra-renal capsules, 492
——— function of supra-renal capsules, 493
Harris, Fallopian pregnancy, 123
Hartford Retreat for Insane, notice of report of, 456
Hartshorne, fatal enlargement of the thymus with subjacent tumour, 378
Haughton, the oriental bath, 249
Hayden, physiological relations of albumen, 497
Hays, foreign body retained in nasal fossæ twenty years, 390
Heath, death from chloroform, 288
Hebra, caustic glycerine in lupus, 253
Hemorrhoids, treatment of, 273
Hernia, case of, 560
Hernia of ovaries, 284
Herpin, lactate of zinc in epilepsy, 522
Hervé, guarana in chronic diarrhœa, 521
Hewitt, coagula in veins during puerperal state, 548
Hip-joint, osteoid tumour connected with capsular ligament of, 109
Hird, present state of surgical science in reference to cancer, 273
Hodgson, Prostate Gland, notice of, 478
Hulke, pathology of glaucoma, 539
——— nævi of eyelids, 543
Humerus, luxation of, reduced by manipulation, 344
Hunter, monstrosity, 294
Huss, case of hæmophilia, 259
Hutchinson, disease of supra-renal capsules, 509
Hydrocele cured by excision of tunica vaginalis testis, 345, 346
——— diagnosis of, 538
Hydropneumothorax treated by paracentesis thoracis and injections of iodine, 515
Hyoscyamus, supposed influence of alkalies on therapeutic properties of, 501, 502
Hysteria, Briquet on, 261

I.

Impalement, 568
Incontinence of urine, belladonna in, 267
Indiana, notice of Transactions of Medical Society of, 199
Inman, doctrine of elimination, 524
——— principles of treatment in chronic rheumatism, 519
Inoculation with gonorrhœal matter for cure of granular lids, 570
Insane hospital reports, notices of, 213, 449
Intermittent fever, chloroform in, 266
Intestinal walls, nerves of, 240
Inverted toe-nail, treatment of, 568
Iodide of calomel, preparation of, 505
Iron, use of, 327
Isaacs, disarticulation and removal of nearly half of lower jaw, 295
——— anomalous situation of left kidney, 295

J.

Jacubowitsch, histology of nervous system, 237
Jewell, annual report on meteorology and epidemics, 395
Johnson on Intra-Capsular Fractures of Cervix Femoris, notice of, 227
Jones, functional paralysis, 524

K.

Kameela as an anthelmintic, 522
Kelly, ruptured uterus, 552
Kidney, anomalous situation of left, 295
King, catalepsy cured by nitrate of silver, 143
Kirster, presence of sugar in urine of pregnant, parturient, and puerperal women, 244
Kyle, euphrasia officinalis in epilepsy, 570

L.

Lactate of zinc in epilepsy, 522
Lane, amputation at knee-joint, 272
——, case of hernia, 560
Laudanum, poisoning by twelve drachms of, 288
————, poisoning by, 559
Leared, kameela as an anthelmintic, 522
Lee, membrana decidua in tubal pregnancy, 549
—— Pathological and Surgical Observations, notice of, 234
Lenhossek, structure of nervous centres, 239
Leucorrhœa, iodide of potassium in, 296
Levick, melanotic tumours, 393
Liquor cinchonæ, formula for, 253
Liver, congenital malformation of, 380
Lotion for strumous glands, 505
Lower jaw, removal of half of, 295
———— resection of, for necrosis, 356
Lungs, elimination of sulphuretted hydrogen by, 245
——— foreign body retained four years in, 380
Lupus, caustic glycerine in, 253
Luschka, choroid plexuses of the human brain, 491

M.

Marcet, immediate principles of human excrement, 248
Marcotti, tartarized antimony in chorea, 522
Marshall Hall, case of, 255
520
Martyn, function of thyroid body, 241
Massachusetts State Hospital, notice of report of, 460
Mathey, perchloride of iron in erysipelas,
Mayer, glycerine in pseudo-membranous croup, 338
McCormac on cholera, 263
M'Clintock, new symptom of rupture of uterus, 283
M'Rae, compound fracture of skull, and loss of portion of brain, 293
Meigs, Diseases of Children, notice of, 479
Meissner, nerves of intestinal walls, 240
Melanotic tumours of the viscera, without external symptoms, 392
Membrana decidua in tubal pregnancy, 549
———— tympani, perforation of, 13
Meteorology and epidemics, report on, 395
Miller's Obstetrics, review of, 180
——— Practice of Surgery, notice of, 236
Monster of the genus peracephalus, 370
Monstrosity, 294
Montgomery, reciprocal sympathies of uterus and bladder, 544
Moore, arterio-venous aneurism, 268
Morris, congenital malformation of liver, 380
——— epistaxis arrested by administration of common salt, 390
Movable kidneys, 523

N.

Nævi of eyelids, 543
Nasal fossæ, foreign body retained in twenty years, 390
National hotel epidemic, 97
Necrosis from fumes of phosphorus, 356
Nelaton, diagnosis of hydrocele, 538
Nerves of intestinal walls, 240
Nervous centres, structure of, 239
——— system, histology of, 237
Neuralgia, exsection of nerve for, 134
New Hampshire, notice of Transactions of Medical Society of, 202
———— State Asylum Report, notice of, 461
New York City Lunatic Asylum Report, notice of, 453
———— State Lunatic Asylum, notice of report, 458
Nitrate of silver in catalepsy, 143
Nitsche, acute poisoning by phosphorus, 288

O.

Œdema glottidis, 518
Ohio Central State Asylum, notice of report of, 213, 450
—— Northern State Asylum, notice of report of, 218
—— Southern State Asylum, notice of report of, 219, 451
Oldham, hernia of both ovaries, 284
Operations, prevention of ill consequences of, 271
Oppolzer, movable kidneys, 523
Orchitis, collodion in, 532
Oriental bath, 249
Os coccygis, dislocation of, 270
Osteoid growth connected with capsular ligament of hip-joint, 109
Ovaries, hernia of, 284
Ovariotomy, 296

P.

Paget, cancerous lymphatic glands, 530
——— enlarged tonsils, 535
——— strumous inguinal glands, 529
——— suppuration of strumous glands, 528
Paralysis, functional, 524
Pavy, starch from the animal kingdom, 246
Payne, iodide of potassium in leucorrhœa, 296
Peaslee's Human Histology, review of, 173
Perchloride of iron in erysipelas, 520
Permanganate of potash as a caustic deodorant, &c., 249
Phosphorus, poisoning by, 288
——— specific treatment of consumption by, 516
Physiology, notice of Brown-Séquard's Journal of, 479
Pitha, œdema glottidis, 518
Placenta, influence of upon the development of the uterus during pregnancy, 309
——— prævia, 391
Plasma, a substitute for fats in ointments, 506
Pleuro-pneumonia, treatment of, 514
Pneumonia after laryngotomy, causes of, 525
Poisoning by laudanum, 288
——— phosphorus, 288
Popliteal aneurism cured by compression, 535
Porcher, absence of urea and uric acid in urine in yellow fever, 570
Porter, notes of campaigns in the war with Mexico, 347
Potato, chemical properties of, 255
Prostate, enlarged, 473
Pseudo-membranous croup, glycerine in, 338
Pulmonary tuberculosis, report on, 52

Q.

Quadruple births, 282
Quinine, large doses of in dysuria and retention, 532

R.

Radius, excision of, 363
Rand, injurious effects on the eye of the light from a fish-tail burner, 377
Rattlesnake, Bibron's antidote to poison of, 94, 375
Read, influence of placenta on development of uterus during pregnancy, 309
Rectum, notice of Ashton on Diseases, &c. of, 487
Red blood and dark blood, properties and uses of, 496
Report of Friends' Asylum, Philadelphia, notice of, 213
——— U. S. Government Hospital, notice of, 216
——— Ohio Central State Asylum, notice of, 217, 450
——— Ohio Northern State Asylum, notice of, 218
——— Ohio Southern State Asylum, notice of, 219, 451
Report New City Lunatic Asylum, 453
——— Bloomingdale Asylum, 455
——— Vermont State Asylum, 455
——— Western Lunatic Asylum of Virginia, 456
——— Retreat at Hartford, 456
——— New State Lunatic Asylum, 458
——— Massachusetts State Lunatic Asylum, 460
——— New Hampshire State Asylum, 461
Respiratory organs, treatment of inflammatory diseases of, 513
Retention of urine, large doses of disulphate of quinine in, 532
Rheumatism, acute, treatment of, 519
——— chronic, treatment of, 519
Rhoads, placenta prævia, 391
Ricord's Lectures on Chancre, review of, 427
Roeser, revision of doctrine of dislocation, 269
Rogers, chemical properties of potato, 255
Ronzier-Joly, emmenagogue action of achillea millefolium, 503
Rottlera tinctoria as an anthelmintic, 522
Ruptured uterus, 552
Rupture of uterus, new symptom of, 283

S.

Salter, effect of local influences on spasmodic asthma, 517
Sawyer, osteoid growth connected with capsular ligament of hip-joint, 109
Scalds, collodion and castor oil in, 532
Scapula, fractures of, 222
Schacht, proposed substitute for fats in ointments, 506
Schneck, fracture of clavicle and humerus of same side, 352
Schroff, experiments on colchicine, and on the dry bulbs and seeds of colchicum, 502
Schub, causes of pneumonia supervening after laryngotomy, 525
Semple, treatment of inflammatory diseases of respiratory organs, 513
Serres, large doses of disulphate of quinine in dysuria and retention, 532
Shelton, belladonna and mercurial ointment in croup, 340
Shepherd, encephaloid tumours involving kidney, 291
Shoulder-joints, simultaneous dislocation of both, 295
Sims, new uterine elevator, 132
Skull, compound fracture of with loss of portion of brain, 293
Smith, cod-liver oil in chest diseases, 264
——— Strictures of the Urethra, review of, 433
——— treatment of obstinate stricture of urethra, 537
Somnambulism, 361
Sore nipples, application to, 296
South Carolina, notice of Transactions of Medical Association of, 209
Spaeth, on cross presentations, 553
Spasmodic asthma, effect of local influences on, 517
Starch from the animal kingdom, 246

Statistical table of mean height of recruits, 296
Stomatitis materna, chlorate of potash in, 296
Storer, cupping interior of uterus, 117
Strabismus, with imperfect vision, 281
Stramonium, influence of alkalies on therapeutic properties of, 501, 502
Stribling, somnambulism, 361
Stricture of urethra, 537
Strictures of urethra, review of Smith on, 433
Strumous glands, lotion for, 505
——— suppuration of, 528
——— inguinal glands, 529
Sugar in diabetic urine, method of determining, 242, 243
——— presence of in urine of pregnant, parturient and puerperal women, 244
——— treatment of diabetes with, 506
Suicide by chloroform, 286
Sulphate of zinc as a caustic, 504
Sulphuretted hydrogen, elimination of by the lungs, 245
Sulphuric acid as a caustic, 504
Supra-renal capsules, histology of, 492
——— function of, 493
——— disease of, 509
Suppuration of strumous glands, 528
Surgical operations, after-treatment of, 525
Syme, escharotic treatment of cancer, 274

T.

Tartarized antimony in chorea, 522
Taylor, tumour occurring after delivery, 558
Tendo-Achillis, process of repair after division of, 527
Thighs, dislocation of both, 563
Thomas, treatment of prolapse of funis, 570
Thompson, epithelial cancer, 276
——— Enlarged Prostate, notice of, 473
——— sulphuric acid and sulphate of zinc as a caustic agent, 504
Thoracic aneurism successfully treated, 532
Thornton, extraction of a living child from a dead mother, 569
Thrombus of vagina, 566
Thumb, dislocation of, 561
Thymus gland enlarged with subjacent tumours causing death, 378
Thyroid body, function of, 241
Tonsils, excision of enlarged, 535
Trachea, rupture of, 120
Tracheotomy in croup, 272
Transactions of Indiana State Medical Society, notice of, 199
——— of New Hampshire Medical Society, notice of, 202
——— of South Carolina Medical Association, notice of, 209
——— of Medical Society of California, notice of, 210
Trousseau, hydropneumothorax, 515
Tufnell, thoracic aneurism successfully treated, 532
Tumour occurring after delivery, 558

U.

Urethra, Strictures of, review of, 433
Urinary organs, chronic disease of with anomalous symptoms, 382
Urine, belladonna in incontinence of, 267
——— new symptom of rupture of, 283
——— alterations produced in by intermittent fever, and by disulphate of quinine, 322
U. S. Government Hospital, notice of report of, 216
Uterine elevator, 132
Uterus, cupping interior of, 117
——— and bladder, reciprocal sympathies of, 544

V.

Valerianate of ammonia, preparation of, 252
Valette, congelations, 530
Van Beuren, simultaneous dislocation of both shoulder-joints, 295
Vagina, thrombus of, 566
Van Halsbeck, treatment of hemorrhoids, 273
Vanzinetti, popliteal aneurism cured by compression, 535
Venous blood, variation in colour of, 494
Vermont State Asylum Report, notice of, 455
Virginia, report of Western Lunatic Asylum of, notice of, 456
Vital statistics of war, 86
Vomiting, phthisical, anæsthesia in, 266

W.

Walter, resection of femur, 354
Walton, vascular tumour of orbit, 542
Waring, national hotel epidemic, 97
War, vital statistics of, 86
Warren, dislocation of both thighs, 563
Waters, asphyxia of submersion, 262
Wells, administration of cod-liver oil in capsules, 504
Williams, treatment of diabetes with sugar, 507
Wilson on diseases of the skin, notice of plates illustrative of, 490
Wister, chronic disease of urinary organs with anomalous symptoms, 382
——— fatal disease of appendix vermiformis, 383
Wood, foreign body retained two years in lungs, 380
——— on ligature of primitive carotid, notice of, 226
Woodward, dislocation of humerus reduced by manipulation, 344
——— hydrocele cured by excision of tunica vaginalis testis, 345, 346
——— epithelioma of lip cured by sulphate of zinc, 346

Y.

Yellow fever, absence of urea and uric acid in urine in, 570

GRADUATES OF JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA, MARCH, 1858.

At a Public Commencement, held on the 9th of March, 1858, the degree of DOCTOR OF MEDICINE was conferred on the following gentlemen by the HON. EDWARD KING, LL. D., President of the Institution; after which a Charge to the Graduates was delivered by PROFESSOR CHARLES D. MEIGS.

NAME.	STATE OR COUNTRY.	SUBJECT OF THESIS.
Ackley, Henry	New Jersey.	Chlorosis.
Alexander, W. C. S.	Virginia.	Puerperal Peritonitis.
Allison, James	Kentucky.	Typhoid Fever.
Allison, J. A.	North Carolina.	Typhoid Fever.
Applewhite, Louis J.	Georgia.	Medical Science.
Bacon, S. L.	New Jersey.	Epidemic Rubeola.
Barksdale, William Leigh	Virginia.	Dysentery.
Barrett, E. Calhoun	Virginia.	Entero-mesenteric Fever.
Bass, John N.	Kentucky.	Signs of Pregnancy.
Bear, Benjamin, Jr.	Pennsylvania.	Strangulated Femoral Hernia.
Bell, George W.	Pennsylvania.	Treatment of Typhoid Fever.
Bell, James Eugene	Georgia.	Puerperal Fever.
Bell, J. H.	South Carolina.	The Practice of Medicine.
Bell, William	Virginia.	Opium and its Preparations.
Berry, A. J.	South Carolina.	Intermittent Fever.
Bertolette, J. C.	Pennsylvania.	The Vegetable World.
Bibb, Henry C.	Alabama.	Inflammation.
Bill, J. H., Jr.	Pennsylvania.	Specific Solvent Power of Simple Syrup.
Black, John	North Carolina.	Congestive Fever.
Blount, T. M., Jr.	Dis. of Columbia.	A Case of Necrosis.
Bogle, R. L.	Georgia.	Southern Typhoid Fever.
Bond, Francis E.	Montevideo.	Epidemic Yellow Fever.
Bowyer, Edmund F.	Virginia.	Typhoid Fever.
Bradford, F. Standish	Rhode Island.	Pathology of Diabetes Mellitus.
Branch, John H.	North Carolina.	Æsthetics of Medicine.
Branham, P. A.	Georgia.	Erysipelas.
Branin, Henry E.	New Jersey.	Congestive Fever.
Bright, George H.	South Carolina.	Bright's Disease.
Briscoe, Thomas W.	Virginia.	Rubeola.
Brooke, John B.	Pennsylvania.	Tartarized Antimony as a Remedial Agent in Cardiac Dropsy.
Brown, N. M.	Ohio.	Cholera Infantum.
Brunson, Randolph	Tennessee.	Carcinoma.
Bryant, William M.	Alabama.	Post-mortem Examinations.
Buehler, H. B.	Pennsylvania.	Valerianate of Ammonia.
Burks, Charles R. P.	Virginia.	Cholera Infantum.
Butcher, George E.	New Jersey.	Dysentery.
Cade, E. W.	Texas.	The Tongue as an Index of Disease.
Caldwell, Samuel H.	Tennessee.	Variola.
Campbell, J. M.	North Carolina.	Oleum Terebinthinæ.
Capers, Le Grand G., Jr.	Texas.	Physiology of Digestion.
Carson, Samuel M. (M. D.)	Tennessee.	Ice.
Cessna, B. F. (M. D.)	Ohio.	Nature and Treatment of Phthisis.
Christie, James (M. D.)	New Brunswick.	Ferrum.
Clark, Isaac J.	New Jersey.	Cynanche Tonsillaris.
Clinkscales, F.	South Carolina.	Enteric or Typhoid Fever.
Combe, C. B.	Kentucky.	Etiology, Pathology, &c., of Yellow Fever.
Cook, Joseph L.	Pennsylvania.	Typhoid Fever.
Coudrick, Charles R.	New Jersey.	Arsenious Acid as a Poison and a Therapeutic Agent.
Crawford, John C.	South Carolina.	Inguinal Hernia.

NAME.	STATE OR COUNTRY.	SUBJECT OF THESIS.
Crawford, William	Ohio.	Variola.
Crockett, R. A. (M. D.)	Tennessee.	Nature of Tuberculosis.
Crump, Lawrence S.	Virginia.	Delirium Tremens.
Culler, J. P. H.	Georgia.	Heterologous Formations.
Cummins, J. M.	Pennsylvania.	Cold as a Therapeutic Agent.
Cummins, Lewis C.	Pennsylvania.	Menstruation.
Daniels, Henry A.	England.	Functions of the Great Sympathetic Nerve.
Davis, Jesse Hudson	Pennsylvania.	Typhoid Fever.
De Yampert, T. J. L.	Alabama.	Chorea.
Draper, Joseph	Massachusetts.	Bony Union.
Drewry, Henry Martyn	Virginia.	Narcotics.
Du Pont, Charles E.	South Carolina.	Menstruation.
Eades, Upson R.	Georgia.	Acute Dysentery.
Epes, Algernon S.	Virginia.	Opium, its Preparations and Effects.
Epes, J. W.	Alabama.	Entero-mesenteric Fever.
Evans, Edwin C. (M. D.)	Missouri.	Occlusion of the Bowels.
Ewing, George C.	Pennsylvania.	Tabacum.
Figgat, William F.	Virginia.	Puerperal Convulsions.
Franklin, J. W.	Virginia.	Femoral Hernia.
Freyman, A. A.	Pennsylvania.	Acute Dysentery.
Galt, William J.	Pennsylvania.	Menstruation.
Gartrell, Homer L.	Georgia.	Variola.
Gilkeson, James B. (M. D.)	Virginia.	Cinchona.
Gilliam, James S. (M. D.)	Virginia.	Pneumonia.
Gilmore, J. T.	Mississippi.	Stricture of the Urethra.
Good, D. R.	Pennsylvania.	Health.
Goodgion, W. H.	South Carolina.	Remittent Fever.
Gootee, Benjamin S.	Maryland.	Erysipelas.
Graham, John A.	Virginia.	Inguinal Hernia.
Green, William	Virginia.	Entero-mesenteric Fever.
Guerrant, T. D. F.	Virginia.	Indigestion as a Cause of Disease.
Hale, Peter J.	Virginia.	Dysentery.
Haley, Argyle	Virginia.	The Human Hand.
Harrell, Richard A.	Virginia.	Intermittent Fever.
Harris, William H.	Georgia.	Water, its Physiological and Therapeutical Uses.
Harvey, Granville	Missouri.	Typhoid Fever.
Hauser, R. A.	North Carolina.	Dysentery.
Hayslett, A. J.	Virginia.	Scarlatina.
Heath, William H.	South Carolina.	Gonorrhœa.
Henderson, F. B.	Alabama.	Pneumonia.
Herndon, Charles L. C.	Kentucky.	Acne.
Hoffman, J. M.	Pennsylvania.	Ovariotomy.
Hoffman, J. R.	Tennessee.	Thesis Writing.
Holman, John N.	Mississippi.	Entero-mesenteric Fever.
Hoover, George W.	Pennsylvania.	Eclampsia Gravidarum et Parturientium.
Hopkins, James Alfred	Delaware.	Intermittent Fever.
Hornor, S. H.	New Jersey.	Treatment of Diabetes.
Ingersoll, Charles J., Jr.	Mississippi.	Heterologous Formations.
Jackson, La F.	Virginia.	Apoplexy.
Kent, Joseph W.	Virginia.	Inflammation.
Kerr, William	Alabama.	Acute Gastritis.
Kimbrough, Andrew H.	Illinois.	Inflammation.
Kindleberger, David	Ohio.	Sleep.
King, A. M.	Mississippi.	Typhoid Fever.
King, E. C.	Texas.	Malaria.

NAME.	STATE OR COUNTRY.	SUBJECT OF THESIS.
King, James T.	North Carolina.	Opium and its Effects.
King, T. Starke	Mississippi.	Typhoid or Entero-mesenteric Fever.
King, W. Norvell	Ohio.	Apoplexy.
King, William M.	Pennsylvania.	Surgical Affections of the Joints.
Kirksey, E. Jehu	Alabama.	Prolapsus Uteri.
Lee, Paul C.	Alabama.	Epilepsy.
Legge, Josiah H.	Maryland.	Entero-mesenteric Fever.
Lewis, Charles I.	Virginia.	Peritonitis.
Lewis, Isaiah M.	Pennsylvania.	Traumatic Hemorrhage.
Leyburn, John	Virginia.	The Obstetrician's Life.
Lockwood, N. S.	New York.	Sulphate of Morphia.
Madison, Charles P.	Illinois.	Entero-mesenteric Fever.
Marbourg, H. W.	Pennsylvania.	Chorea.
Marshall, N. S.	Pennsylvania.	Diagnosis.
McCann, Robert C.	Mississippi.	Rubeola.
McCants, W. J.	South Carolina.	Tubercular Phthisis.
McCluney, J. F.	South Carolina.	Functions and Phenomena of the Uterine System.
McConaughy, D. W.	Pennsylvania.	Acute Meningitis.
McCormick, Charles (M. D.)	Virginia.	Chloroform.
McFarland, R. W.	Kentucky.	Typhoid Fever.
McNemar, M. R.	Virginia.	Puerperal Convulsions.
McQueen, S. F.	Alabama.	Pneumonia.
Meredith, Joseph S.	Virginia.	Acute Laryngitis.
Merriman, W. H.	New York.	Vaccination.
Miller, John F.	North Carolina.	Dysentery.
Mitchell, John P.	Virginia.	Relapsing Fever.
Mitchell, R. V.	Alabama.	Duties of a Young Physician.
Montgomery, John	Pennsylvania.	Functions of the Liver.
Moody, J. Monroe	Tennessee.	Cholera Epidemica.
Moomau, James P.	Virginia.	Acute Dysentery.
Moore, E. D.	Mississippi.	Pelvic Presentation.
Moore, J. A.	Alabama.	Pneumonia.
Morrison, A. J.	Kentucky.	Erysipelas.
Nelson, John A.	Virginia.	Dysentery.
Nordmann, L. E.	Pennsylvania.	Pernio.
Oliver, James W.	Virginia.	The Cerebrum in health and disease.
Paine, A. B.	North Carolina.	Dysentery.
Palmer, Valentine Jackson	North Carolina.	Typhoid Fever.
Parberry, William	Missouri.	Malaria and its Modus Operandi in the Production of Intermittent Fever.
Paslay, E. C.	South Carolina.	Florida.
Patton, George E.	Tennessee.	Symptoms and Diagnosis of Dysentery.
Payne, Philander W.	Indiana.	The Conservative Element in the Animal Economy.
Pelot, J. Crews	Florida.	Malaria.
Peyton, Lawrence R.	Kentucky.	Causes of Erysipelas.
Phillips, P. Sandford	Alabama.	Typhoid Pneumonia.
Pomerene, Joel	Ohio.	Typhoid Fever contagious.
Pope, Sampson	South Carolina.	Entero-mesenteric Fever.
Randall, William	Indiana.	Pathology of Congestion.
Rankin, A. H.	Pennsylvania.	Variola.
Reiber, William F.	Pennsylvania.	Scarlatina.
Reeve, Stephen S.	Georgia.	Dyspepsia.
Rice, Thomas C.	Virginia.	Syphilis.
Ricks, Fabius S.	Virginia.	Intermittent Fever.

NAME.	STATE OR COUNTRY.	SUBJECT OF THESIS.
Robinett, John R.	Mississippi.	The Medical Profession.
Rogers, James A.	North Carolina.	Inflammation.
Scarburgh, George T.	Virginia.	Scarlatina.
Scearce, J. B.	Kentucky.	Differential Diagnosis.
Scott, W. J.	Alabama.	Menstruation and its Diseases.
Sears, John H.	Virginia.	Wounds.
Sencindiver, Lewis M.	Virginia.	The Practice of Medicine.
Seymour, Edward W.	Connecticut.	Insanity.
Sheets, Abraham (M. D.)	Ohio.	Scarlatina.
Shotwell, C. H.	Missouri.	Conservative Influence of Pain.
Shurlock, William Charles	Pennsylvania.	Anatomico-physiological Peculiarities of the Genital Organs of Woman.
Sims, William B.	Virginia.	Acute Laryngitis.
Smith, D. M.	North Carolina.	Inflammation.
Smith, T. Albert	Georgia.	Intermittent Fever.
Smither, Charles G.	Mississippi.	Veratrum Viride.
Snodgrass, William	Virginia.	Inflammation.
Snow, J. B.	Indiana.	Varicocele.
Snowden, Harold	Virginia.	Bilious Remittent Fever.
Stacy, R. Q.	Georgia.	Absorption.
Stephenson, J. Thomas	Kentucky.	Theory of Inflammation.
Stewart, A. E.	Illinois.	Pneumonia.
Stewart, John R.	North Carolina.	Glossitis.
Stover, John M.	Indiana.	Veratrum Viride.
Thatcher, John P.	Missouri.	Infantile Convulsions.
Thomas, Jerome B.	Illinois.	Intermittent Fever.
Towle, Samuel Knapp	Massachusetts.	The Physician.
Townsend, G. F.	Maine.	Acute Gastritis.
Tribou, N. M. Jr.	Massachusetts.	Typhoid Fever.
Trippe, Henry W.	Georgia.	Mineral Acids as Irritant Poisons.
Trotman, Elisha	Tennessee.	Entero-mesenteric Fever.
Turner, J. D.	Virginia.	Phthisis.
Turner, J. H. Jr.	Mississippi.	Chloroform.
Vance, Thomas J.	Louisiana.	Dysentery.
Vastine, J. H.	Pennsylvania.	Puerperal Convulsions.
Walker, Delavan N.	New York.	Enteritis.
Walker, T. F.	Georgia.	Conservative Influence of Pain.
Ward, Daniel O'Connell	New Jersey.	Duties of the Physician in the Lying-in Room.
Warnock, James T.	Alabama.	Signs of Pregnancy.
Warren, Orin	Maine.	Croup.
Watkins, Joseph F.	Virginia.	Cathartics.
Webb, Joseph B.	Virginia.	Death.
Webb, S. V.	Alabama.	Concussion of the Brain.
Weever, John B.	Indiana.	The Actual Cautery.
West, Hilborne	Pennsylvania.	Traumatic Tetanus.
Wharton, John S.	Virginia.	Anatomical Changes of the Female Reproductive Organs during Pregnancy.
White, Demosthenes	Missouri.	De Digestione Apparatuque Digestionis.
Willets, J. Howard	New Jersey.	Erysipelas.
Williams, Urbane V.	Kentucky.	Apoplexy.
Willis, T. Hayward	Florida.	Intermittent Fever.
Wilson, John W.	Virginia.	Conservative Influence of Pain.
Wright, Astley Cooper	Kentucky.	Amenorrhœa.
Young, George Kemper	Virginia.	Venesection.

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